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THE Unexplained

MYSTERIES OF MIND SPACE & TIME

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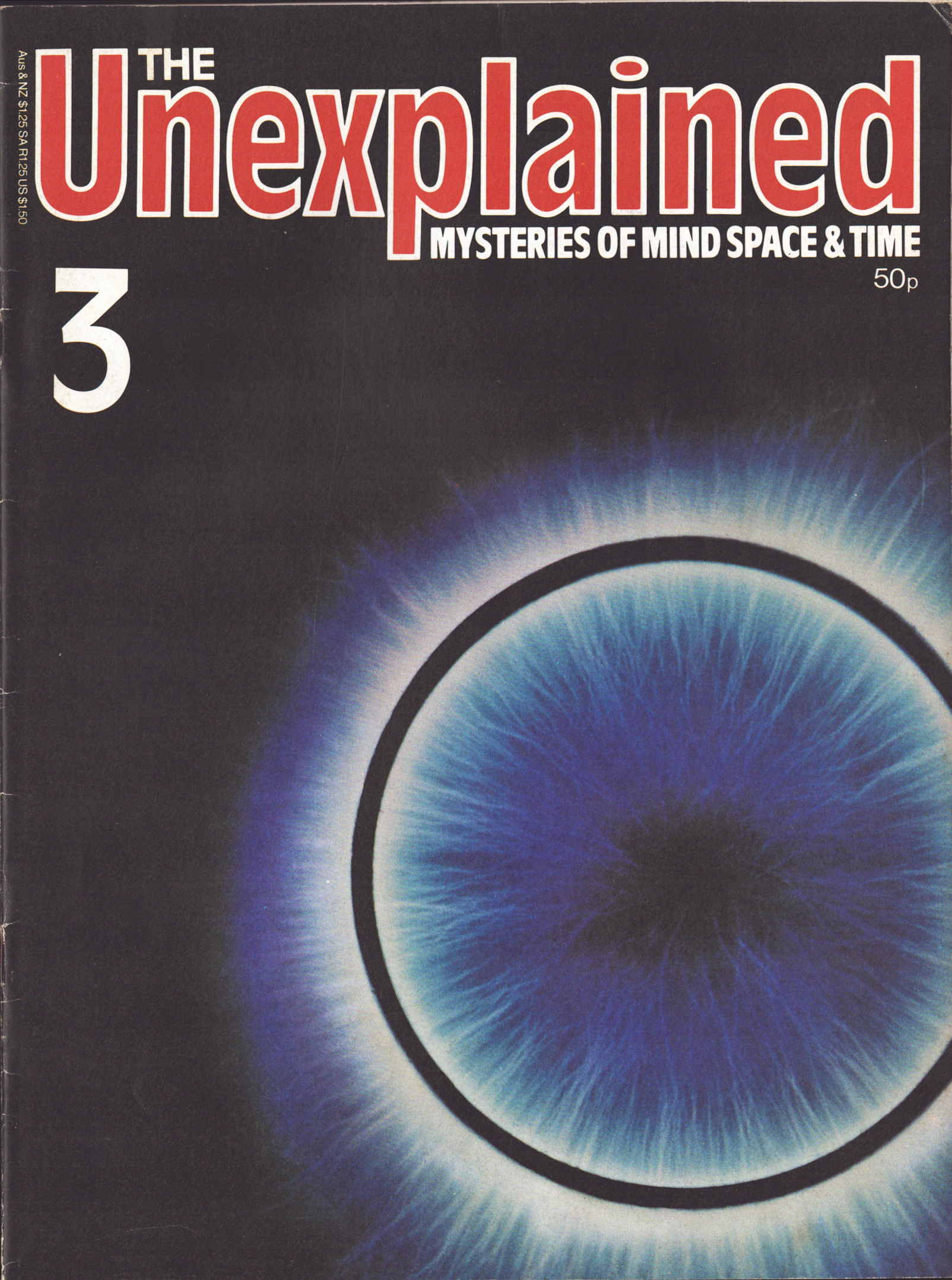

THE Unexplained
MYSTERIES OF MIND SPACE & TIME

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Volume 1 Issue 3

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We examine the mysterious **Black Madonnas**, which despite their Christian appearance, are steeped in paganism. Clairvoyance is the theme of our third article on **Extra-sensory perception**. Do people who possess this remarkable power have uncanny visions – or is it a matter of pure chance? In part 3 of our series on **Hypnosis**, we look at more extraordinary evidence of previous existences experienced by people under hypnosis. There are more spectacular pictures in the **UFO Photo File** and an examination of **UFO technology**. Finally, there are a number of cases in which UFOs and **Mysterious man–beasts** have been seen at the same time and place. Is this coincidence?

Picture acknowledgements
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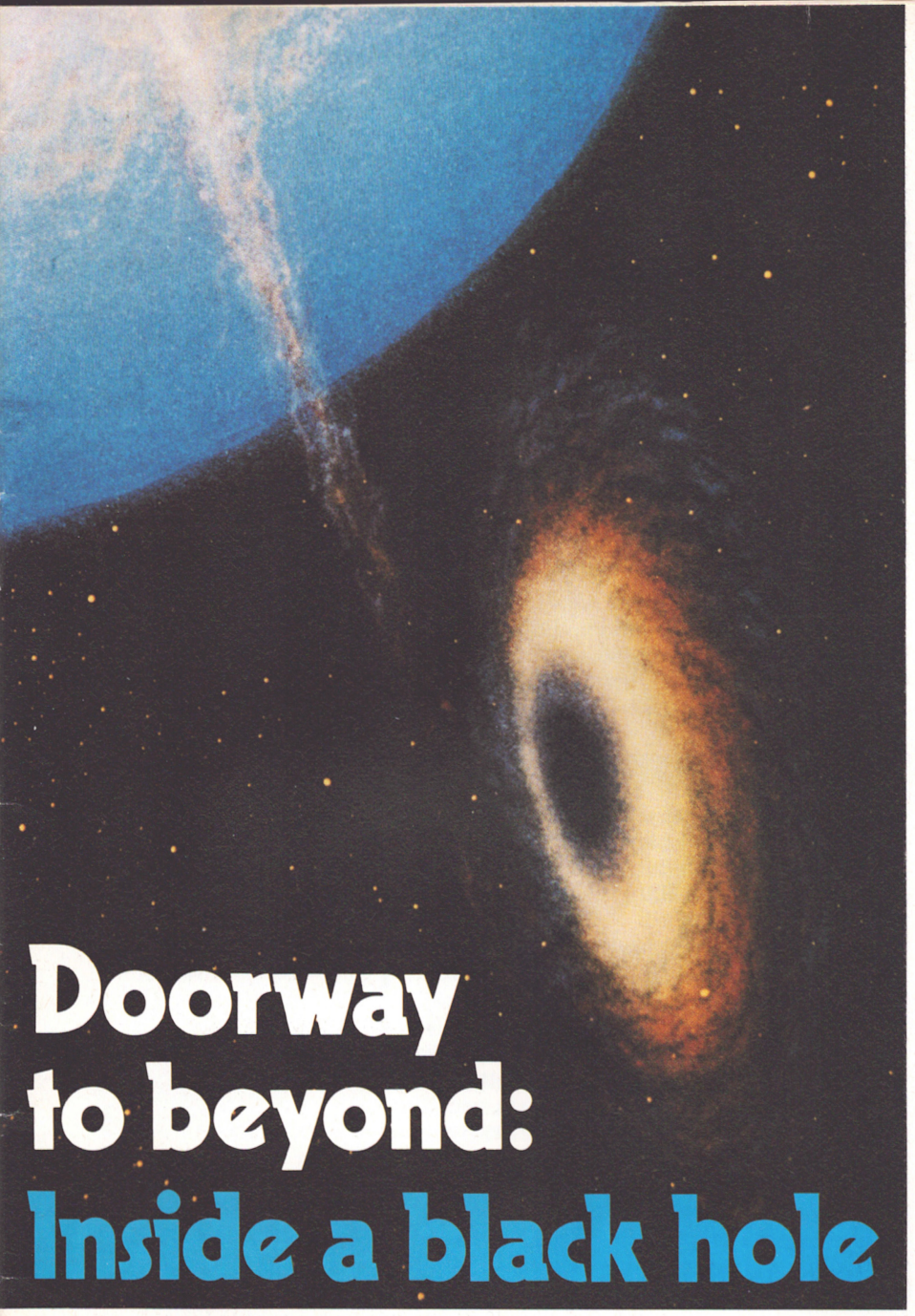

Doorway to beyond: Inside a black hole

Some astronomers have suggested that we can travel through a black hole and reappear instantaneously in another universe. NIGEL HENBEST explores the scientific basis for believing such a journey possible

NOTHING, NOT EVEN LIGHT, can ever escape from a black hole. But some astrophysicists believe that an astronaut falling into one might suddenly, almost instantaneously, reappear in a strange and alien universe quite unlike the one he had left only moments before: a universe existing not only in another dimension of time, but one where the fundamental laws of nature are reversed.

Of course, no one knows for certain what would happen if an astronaut were to fall into a black hole. But modern astronomy, based on Einstein's theory of relativity, has pieced together an account of what *could* happen.

Take the case of an astronaut approaching a simple, static, black hole of the type described by Karl Schwarzschild in 1916 (see diagram 1). Not everything that strays into the outer fringes of a black hole is inevitably sucked in. A spaceship, for example, could journey to the outer limits, despatch an astronaut, then safely escape by firing its rocket motors or by going into orbit: letting centrifugal force balance the spaceship's gravitational pull.

As the astronaut begins to fall towards the brightly lit outer fringe of the black hole – called the event horizon – strange things begin to happen. Relativity theory says that time runs more slowly in regions of strong gravitation. And the gravitation exerted by a black hole is more powerful than anywhere else in the Universe. As we watch the astronaut fall closer to the event horizon, time for him runs slower and slower. His watch slows down to such an extent that, to us observing him, he never seems to reach it. If we calculate, for example, that he's just one second from falling in, then that last second on his slow-running watch will be stretched to an infinite amount of time. However long we wait, he'll never quite make it. But to him, his watch keeps perfectly steady time. Although to us his fall to the event horizon takes an infinite time, to him it passes in only a matter of seconds. And once beyond the event horizon we cannot see or hear from him again.

Crushed to oblivion

Inside a Schwarzschild black hole, our astronaut would be dragged to the single point of infinite density at the centre, called the 'singularity'. Within a fraction of a second – to him – he too, becomes part of that infinitely compressed point, crushed to oblivion. Few astronomers now think, however, that static black holes of the type described by Schwarzschild actually exist. Every star in the Universe rotates – indeed our whole Universe may itself rotate – and black holes are probably no exception. Indeed, black holes may well rotate more rapidly than most stars. And for an astronaut approaching a rotating black hole, his fate is not as grim as the certain oblivion he would meet in a static hole.

To help us visualise what would happen inside and around a rotating black hole, Roger Penrose has devised a set of space-time diagrams. To plot a course through a Penrose diagram the basic rule is that we can only

Above: an artist's impression of a rotating black hole. The brightness surrounding the hole is light from distant stars that has gone into temporary orbit, before being flung into space

Right: diagram 1 shows the structure of a static black hole. The event horizon marks the boundary beyond which nothing, not even light, can ever escape. Anything falling to the point of singularity would be crushed to oblivion

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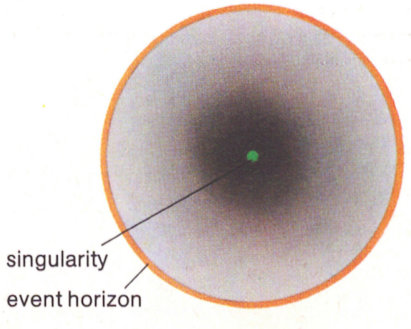

Left: German astronomer Karl Schwarzschild was the first to apply Einstein's theory of relativity to the study of black holes

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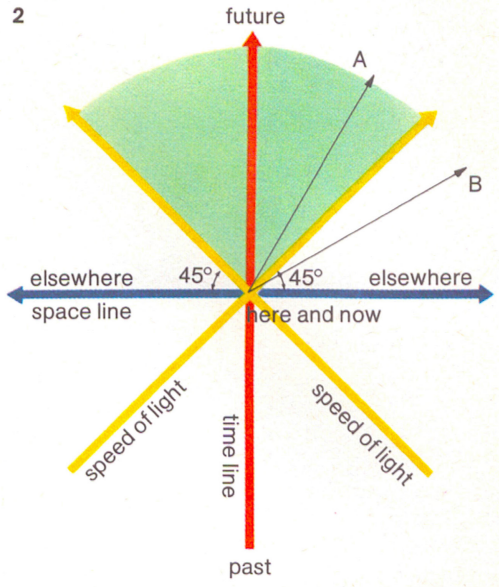


Right: diagram 2, the standard space-time chart. Journey A is possible because it is less than the speed of light. Journey B, which exceeds the speed of light, is impossible. The shaded area defines the area of possible space travel

Space, time, and relativity theory

Imagine you are flying in an aeroplane at 500 mph (800 km/h). Another jet is flying straight towards you, also at 500 mph (800 km/h). How quickly are you approaching each other? In other words, what is your *relative* velocity? Common sense says it is 1000 mph (1600 km/h); to get the answer, you add the velocities.

Now imagine you are aboard a spaceship travelling at three quarters the speed of light towards a distant star. How fast is the light from the star reaching you? Again, common sense says that the relative velocity is one and three-quarters the speed of light; but if you measured it, you would find that the speed at which the light was reaching you was still only 186,000 miles per second (300,000 km/s).

This seemingly paradoxical state of affairs is both predicted and explained by the theory of special relativity, proposed by Albert Einstein in 1905. It states that the speed of light is constant, no matter what the speed of the source or the speed at which you travel towards it. It explains this by saying that *moving clocks run slow* – and not only clocks: *time itself* runs more slowly the faster you travel. If you could travel fast enough in your spaceship you would find, on your return to Earth, that many years had elapsed during the few months that the clock in your spaceship says you were away. You could actually be younger than your own children.

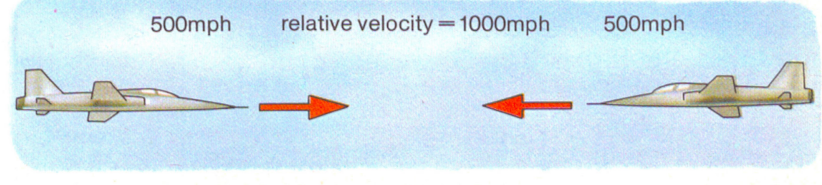
In formulating his theory of special relativity, Einstein made use of a new concept of space and time in which he saw the world as having four dimensions – the familiar three dimensions of space, plus one of time. He called this new concept *spacetime*. It was to be of crucial importance in his revolutionary new theory of gravitation.

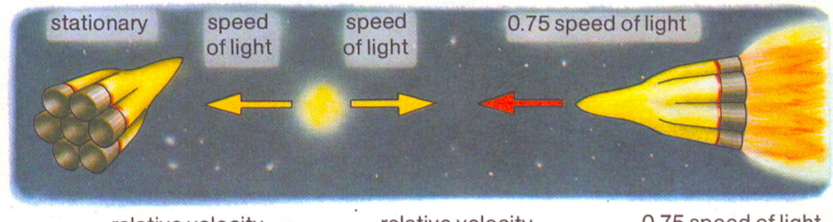
Below: common sense says that two jets travelling towards each other at 500 mph (800 km/h) have a relative velocity of 1000 mph (1600 km/h). But relativity theory says that at speeds near the velocity of light, the situation changes: light would reach a spaceship travelling at three quarters the speed of light at only 186,000 miles per second (300,000 km/s), even if the light source were straight ahead – not, as you might expect, at *one and three quarters* the speed of light, or 325,500 miles per second (525,000 km/s)

In 1915 Einstein announced his theory of general relativity. This explains gravity not, as we are taught at school, as a force of attraction between two objects, but as a property of spacetime itself.

Imagine a horizontal frame, over which is stretched a rubber mattress. On the mattress are a number of balls of various sizes and weights. Each ball will sink into the mattress to a different depth, according to how big and how heavy it is. Now imagine rolling a smaller ball along the mattress; it will be 'attracted' to the others as it rolls down the slope towards them.

This is the principle of general relativity: matter causes spacetime to 'warp', and spacetime in turn tells matter how to





relative velocity = speed of light

relative velocity = speed of light

0.75 speed of light = 139,500 miles per second (225,000 km/s)

speed of light = 186,000 miles per second (300,000 km/s)

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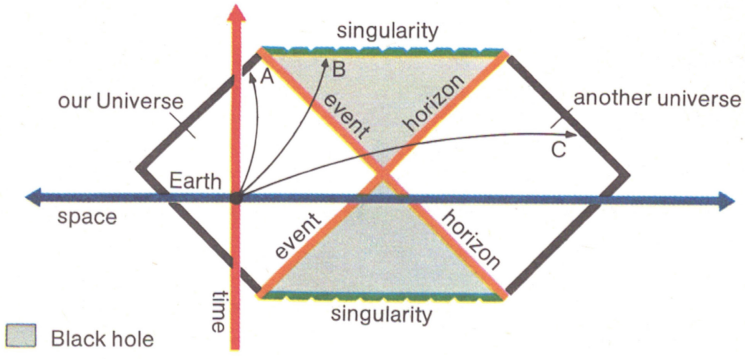
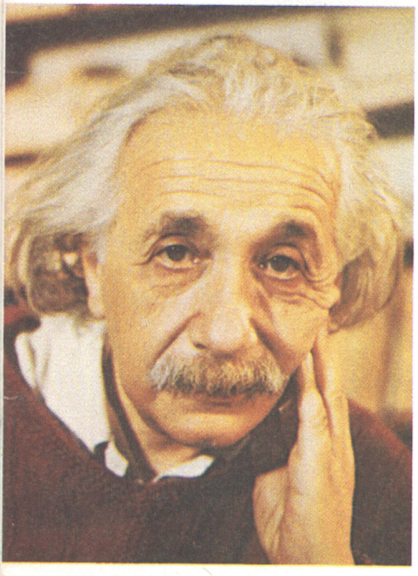


Above: diagram 3, showing the impossibility of travelling through a static black hole and entering other universes. Journey A shows the route of possible spaceflight in our Universe; by entering the black hole journey B inevitably hits the singularity and is destroyed; journey C is impossible since to cross the event horizon and enter another universe would require travelling faster than the speed of light. Before such a journey can be made, the hole must rotate

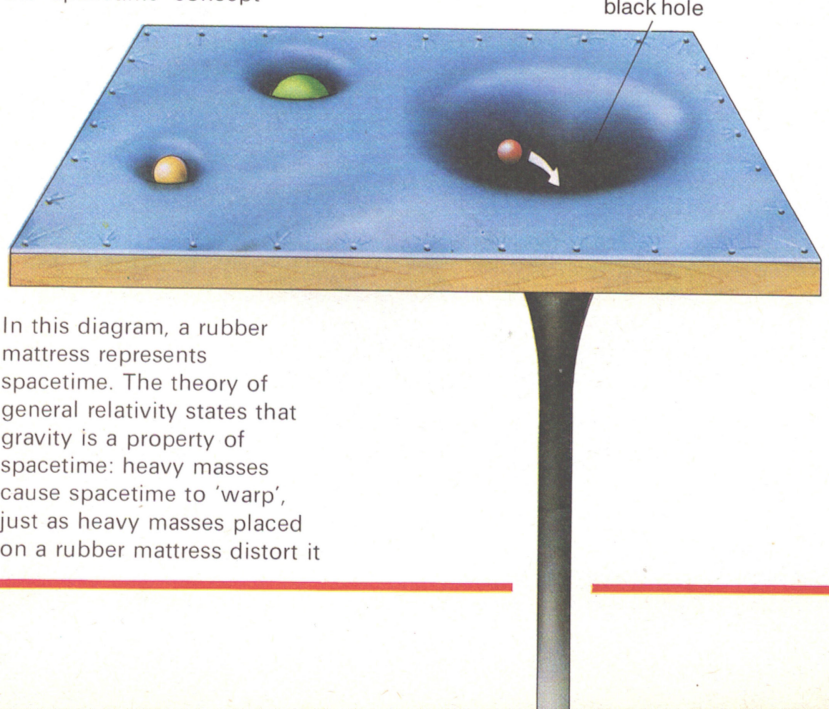


Above: Albert Einstein (1879–1955), inventor of the 'spacetime' concept

behave. In general, spacetime is fairly flat, but near large masses it becomes curved. This curvature influences not only the movement of the smaller masses, but also time itself. General relativity predicts that gravity slows down time.

By 1960, five years after the death of Albert Einstein, scientists had developed clocks accurate enough to prove that the prediction was correct. If you take two identical accurate clocks, synchronise them and place one on the ground floor and one on the top floor of a high building, you will find the one on the top floor ticks the more slowly – because its region of spacetime is more strongly curved by gravity.

Now imagine placing a very small, but immensely heavy, object on the rubber mattress so that it stretches the mattress to an infinite extent without tearing it. This is the riddle of the black hole.



In this diagram, a rubber mattress represents spacetime. The theory of general relativity states that gravity is a property of spacetime: heavy masses cause spacetime to 'warp', just as heavy masses placed on a rubber mattress distort it

travel through space in a generally upward direction, that is, forward in time. In diagram 2, light rays travelling at a speed of 670 million mph (1000 million km/h) mark the speed limit of possible space travel beyond which we can never, according to Einstein, travel. Our entire Universe, out into infinity of space, from its birth to eventual extinction along the time scale, is reduced to a diamond shape in diagram 3. The hour-glass shape (at 45 degrees to the vertical) represents the event horizon and the singularity is at the top. As our astronaut begins to fall towards the event horizon of a rotating black hole, he does not just fall straight inwards. Because of the rapid rotation of the black hole, he would be dragged sideways, no matter how powerful his rockets.

Astronomers working on black hole theory are agreed upon the sequence of events so far. But from this point, the picture becomes slightly more complex. Some astronomers claim that not only do black holes rotate, they are also electrically charged. And this fact makes a difference to our astronaut as he is about to enter the hole.

Within an electrically-charged black hole (see diagram 4), there is a second 'inner' event horizon, lying inside the 'outer' horizon which seals the hole from the rest of the Universe. Here space and time change roles again. So although an astronaut falling through the outer event horizon must pursue a one way path inwards, this now takes him only as far as the inner event horizon. And once inside the inner horizon, our astronaut can manoeuvre how he likes, although he cannot know where he will end up. According to simple calculations, he may re-emerge in another universe, or at the same instant, elsewhere in this Universe.

Into another universe

We can trace the course of the journeys an astronaut could possibly take on Penrose diagram 5. Here the singularity is shown as two vertical lines bordering a 'tunnel'. An astronaut travelling near vertically in the diagram can enter the tunnel through the outer event horizon, travel through the inner event horizon and into a totally different universe at the top of the diagram.

A rotating, non-electrically charged black hole (see diagram 6) also has an inner event horizon through which we could, theoretically, reach another universe. But here the singularity is not a single point, but a ring. If an astronaut could aim through this ring, he might find himself not only in a universe that was different from our own, but one where gravity, for example, instead of being a force that attracts two objects, is a force that repels. He might find himself, that is, in a 'negative universe'. Leaving aside this 'negative universe', some writers have proposed that future space travellers will journey through such tunnels within rotating black holes and hop from universe to universe.

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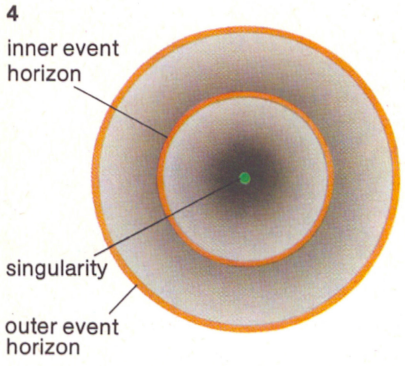

Left: diagram 4, an electrically-charged black hole. The outer event horizon seals the black hole from the rest of the Universe. An astronaut falling inside the inner event horizon, however, could manoeuvre wherever he wanted and could, in theory, emerge into another universe

Below: an astronaut approaching a rotating black hole in diagram 5 has a number of options. He can follow route A and remain in our Universe; he can take route B and hit the singularity and meet instant death. The course of C involves faster-than-light travel, which Einstein rules out. On route D he could pass through both the outer and inner event horizons, avoid the singularity, and reappear in another universe

But there are problems with this proposal. An adventurous astronaut would encounter his first problem before he even entered the black hole. Suppose the astronaut is falling feet first. His feet, being nearer to the hole, would feel a stronger gravitational pull than his head. The difference in gravitational pull along his body would stretch him out as he falls inwards. Physicists Charles Misner, Kip Thorne and John Wheeler have carried this gruesome calculation through, and according to their results the astronaut would be stretched to breaking point still hundreds of miles from the black hole.

Strangely enough, this problem is worse for smaller black holes where the force of gravitation changes more sharply with distance. For the smaller holes, the effect is so marked that gravitation is gradually shredding the structure of space itself and creating particles of matter outside the event horizon. These particles stream off into space gradually robbing the hole of its strength, and indirectly, its matter. These have been described by Stephen Hawking as 'evaporating' and 'exploding' black holes.

At the heart of the galaxy

An astronaut could, however, safely enter a very heavy black hole, where the gravitation changes more gradually with distance from the hole. Such holes may form at the centres of galaxies, where matter was tightly packed at the time of their birth. Some astronomers believe that our own Galaxy, the Milky Way, harbours a black hole five million times the Sun's weight at its centre. There's an even better indication of a black hole a thousand times more massive still, in the heart of the galaxy M87. Although it's invisible, this black hole's immense gravitational pull distorts the paths of nearby stars in the galaxy. And most astronomers now believe that the distant, very bright quasars are simply hot discs of gas surrounding massive black holes at the centre of far-off galaxies.

So massive black holes probably do exist and, in theory at least, could be used as gateways to other universes. In this Universe, the traveller would emerge through a white hole – the exact opposite of a black hole. Just as anything inside a black hole falls inwards, so anything inside a white hole must travel outwards, and must emerge through the event horizon. If white holes exist, they are 'cosmic gushers', spewing matter and light out in a seemingly inexhaustible fountain.

White holes are present in the Penrose diagrams already discussed. In diagram 2, for example, the lower half of the 'hour-glass' is a white hole, while the top half is a black hole. Remembering that all objects must travel more or less vertically in the diagram, it's obvious that everything within this lower triangle must eventually shoot out of the event horizon. And for the more complicated case of the rotating black hole (see diagram 3), the upper of the two diamonds making up the tunnel is, in fact, a white hole opening into the upper universe.

If white holes do exist, they would certainly be fascinating to peer into. The view into a rotating black hole would reveal not just its central singularity, but also two other universes (see diagram 2). One of these universes is the 'negative universe' seen through the centre of the ring-shaped singularity; surrounding this is the singularity itself, and the rest of the white hole would contain a distorted view of another universe,

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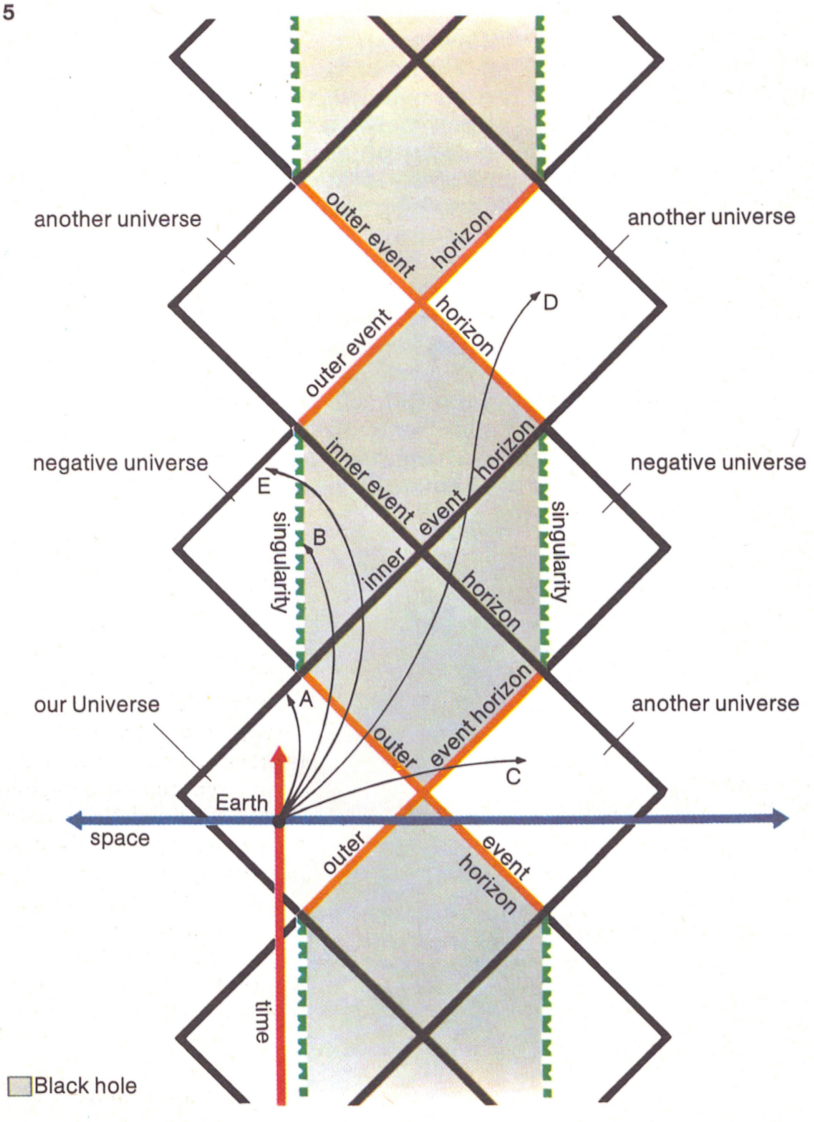

which is seen reflected within the white hole.

But there are severe theoretical difficulties with white holes. For a start, despite their 'gushing' nature they have strong gravitational fields around them. And white holes can't form in space as black holes can: if they exist they must have been around since the beginning of our Universe, 15,000 million years ago. Most astronomers now accept that our Universe began with a 'Big Bang'. Any white holes that did form would have trapped so much radiation around themselves that the sheer mass of radiation would have created a black hole *around* the white hole. The white hole would have been swallowed up in the black hole it created around itself.

The tearing effects of the changing gravitational force within a white hole also means that the central singularity of a white hole is unstable. And effects of both these kinds are likely to happen at the inner event horizon. So although there's still a lot of detailed calculation to be done, scientists are now distinctly dubious about universe hopping through black/white hole tunnels.

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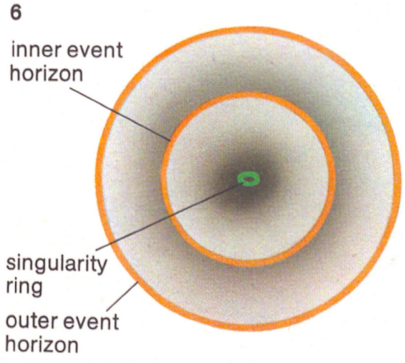

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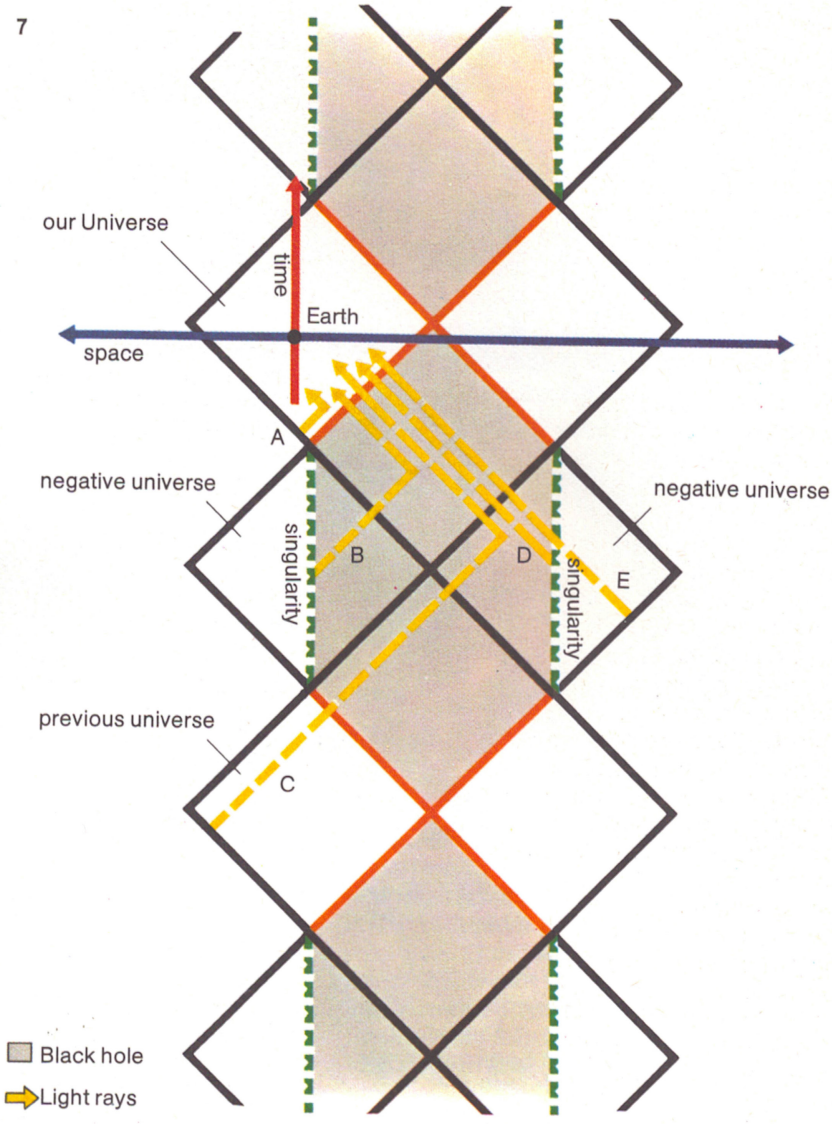


Above left: an X-ray photograph of the distant galaxy M87

Left: diagram 6, a rotating black hole as seen from above. To enter another universe, an astronaut would have to pass through the singularity ring

Above: diagram 7. An observer standing on Earth could, theoretically, receive light rays through a white hole from sources reflected back into positive space from a rotating black hole. From A he would see events happening millions of years ago in this Universe. From B and D he would see into a black hole and from E he would catch a glimpse of a negative universe where the fundamental laws of nature were reversed. Light from C would show events from other, previous, universes

Even so, if the space-time diagrams shown here are correct, interesting questions arise as to the nature of the 'other universes'. They may be totally disconnected from our own; or they may be different regions or different times of our Universe. If so, a black hole *could* be a time machine – and a journey through one could end up in the age of the dinosaurs or far in the future.

But while this aspect of black hole research seems to have come to a full stop, at least in terms of conventional science, observational astronomers are gathering more and more evidence that black holes do exist in our Universe, both in double star pairs like Cyg X-1 and in the centres of galaxies like M87 and the quasars. No doubt black holes have many more surprises – both observational and theoretical – in store for us. And given Man's pioneering urge it can only be a matter of time before manned spaceships are in orbit about a black hole. And someone may just be brave enough to find out what's inside.

On page 81 Adrian Berry shows how, by creating artificial black holes, we can make instantaneous journeys across space

A strange unnatural fire

The idea that human beings can burst into flames of their own accord is odd enough. But, as BOB RICKARD shows, everything about spontaneous human combustion is bizarre

Spontaneous human combustion strikes with astonishing speed, yet the heat generated is sufficient to char even the bones of the victim. In contrast, a body can take hours to burn away in the sustained fire of a crematorium – and even then only the flesh is thoroughly destroyed

PERHAPS THE MOST common characteristic of SHC is the sheer speed with which is strikes. Many victims were seen alive only a few moments before the fire struck from nowhere. An Italian surgeon called Battaglio reported the death of a priest, named Bertholi, in the town of Filetto, in 1789. Lodging with his brother-in-law, he had been left alone in his room reading a prayerbook. A few minutes later he screamed. People came running to find him on the floor surrounded by a pale flame, which receded as they approached.

Bertholi wore a sackcloth under his clothes, next to his skin, and it was immediately apparent that the outer clothes had burned away leaving the sackcloth intact. Under the sackcloth the skin on the man's trunk was not burned, but detached from the flesh and hung in shreds.

Some writers deduce that the fire develops with particular rapidity, from the fact that the victims are often discovered still sitting calmly, as though nothing had happened.

A dramatic example is given in Ron Willis's article on SHC in *INFO Journal* 8 (1972). In 1960, five charred bodies were found in a burned-out car near Pikeville, Kentucky. The coroner commented: 'They were sitting there as though they'd just gotten into the car. With all that heat it seems there'd be some sort of struggle to escape. But there hadn't been.'

Another almost universal characteristic of SHC is the extreme intensity of heat that is involved. Under normal circumstances the human body is very hard to set alight, especially if still alive, and people who die in fires usually sustain only partial or superficial damage to the body. Reduction to a pile of calcined ashes, experts all agree, demands a fierce heat which needs to be externally fuelled and maintained for hours, and even so crematoria still have to grind up the bones that remain afterward.

The death of Mrs Reeser (see box) was investigated by Dr Wilton M. Krogman, a renowned forensic anthropologist from the University of Pennsylvania School of Medicine, who has researched and experimented the causes and effects of deaths by and during fires. He said he has watched bodies in a crematorium burn for over 8 hours at 2000°F (1110°C) without any sign of the bones becoming ashes or powder; and that it takes a heat of about 3000°F (1650°C) to make bone melt and become volatile. Willis mentions the case of Leon Eveille, aged 40, found burnt to a crisp in his locked car at Arcis-sur-Aube, France, on 17 June 1971. The heat had melted the windows. It was estimated that a burning car normally reaches about 1300°F (700°C), but to melt glass the temperature must have been over 1800°F (1000°C).

Time and again in cases of SHC, we encounter a further strange effect: the confinement of the heat. Charred bodies are found lying in unscorched beds, sitting on slightly singed chairs, or with their clothing intact.

In 1905 the *British Medical Journal* reported the death of 'an elderly woman of intemperate habits'. Authorities broke into a house from which smoke was issuing to find

> a small pyramidal heap of broken calcinated human bones, on the top of

Dr Wilton Krogman, an expert on the effects of fire on the human body. He was astonished by the state of Mrs Reeser's corpse, and constructed an elaborate theory to account for it

which was a skull, on the floor in front of a chair. All the bones were completely bleached and brittle; every particle of soft tissue had been consumed, and yet a tablecloth within three feet of the remains was not even scorched. . . .

Curiously, the ceiling was scorched, as if the woman had become a pillar of fire.

Fort, in his *Complete books* (1941) gives two startling cases. The first, from the *Daily News* of 17 December 1904, describes how Mrs Thomas Cochrane, of Falkirk, was found in a bedroom burned to death 'beyond recognition'. There had been no outcry, and little else burned, with no fire in the grate. Her charred corpse was found 'sitting in a chair, surrounded by pillows and cushions'. The second is from the *Madras Mail* of 13 May 1907 concerning a woman in the village of Manner, near Dinapore. Flames had consumed her body, but not her clothes. Two constables had found the corpse in a room in which nothing else showed signs of fire, and had carried the smouldering body to the District Magistrate.

In 1841 the *British Medical Journal* reported an address by Dr F. S. Reynolds to the Manchester Pathological Society on the subject of SHC. Although rejecting the idea of 'spontaneous' combustion, he admitted there were baffling cases, and gave an instance from his experience of a woman of 40 who fell near a hearth. She was found next morning still burning. What astonished him was the damage to the legs: inside unharmed stockings her femora was carbonised and knee-joints opened.

Some chroniclers of SHC have drawn attention to the lack of outcry and struggle by victims. 'In their grim submission,' Fort wrote, 'it is almost as if they had been lulled by the wings of a vampire.' There is more to it than being overcome by drink and fumes – some psychic or psychological component of the phenomenon prefaces or accompanies the burning, and this may explain the lack of escape, and the inability of surviving victims to tell what happened to them.

For example, the *Hull Daily Mail* of 6 January 1905 describes how an elderly

The destruction of Mary Reeser

Workmen are seen here clearing away the remains of the chair in which Mrs Mary Reeser, a widow of 67, of St Petersburg, Florida, departed this life on a pillar of fire, during the night of 1 July 1951. Damage to the surroundings was minimal. The overstuffed chair was burned down to its springs, there was a patch of soot on the ceiling above and a small circle of carpet was charred around the chair, but a pile of papers nearby was unscorched. Dr Wilton Krogman, a forensic scientist who specialised in fire deaths, was visiting in the area and joined the investigation. He said:

> I cannot conceive of such complete cremation without more burning of the apartment itself. In fact the apartment and everything in it should have been consumed. Never have I seen a human skull shrunk by intense heat. The opposite has always been true; the skulls have been either abnormally swollen or have virtually exploded into hundreds of pieces . . . I regard it as the most amazing thing I have ever seen. As I review it, the short hairs on my neck bristle with vague fear. Were I living in the Middle Ages, I'd mutter something about black magic.

Police considered every likely theory, and a few unasked-for ideas from cranky members of the public: suicide by petrol, ignition of methane gas in her body, murder by flame-thrower, 'atomic pill' (whatever that meant), magnesium, phosphorus and napalm substances . . . and even a 'ball of fire' which one anonymous letter-writer claimed to see. In the end the coroner accepted the FBI theory, that she had fallen asleep while smoking and set her clothes alight.

Dr Krogman himself proffered the idea that Mrs Reeser had been burned elsewhere by someone with access to crematorium-type equipment or materials, then was carried back to the apartment, where the mystery assailant had added the finishing touches, like heat-buckled plastic objects, and a door-knob that was still hot in the morning. A year later, the police confessed the case was still open.

woman, Elizabeth Clark, was found in the morning with fatal burns, while her bed, in the Trinity Almshouse, Hull, was unmarked by fire. There had been no outcry or sounds of struggle through the thin partitions. She was 'unable to give an articulate account' of her accident, and later died. Of course that could mean that the authorities – not for the first time – simply didn't believe her account.

In *Lo!* (1930), Fort describes the complex fires that plagued Binbrook Farm, near Grimsby, in the winter of 1904–5. One incident involved a young servant girl who was burning without her knowledge, and might have been another SHC statistic had not her employer roused her from her day-dreaming (or trance). According to a local newspaper, the farmer said:

> Our servant girl, whom we had taken from the workhouse . . . was sweeping the kitchen. There was a very small fire in the grate; there was a guard there so that no one can come within 2 feet [0.6 metres] or more of the fire, and she was at the other end of the room, and had not been near. I suddenly came into the kitchen and there she was, sweeping away while the back of her dress was on fire. She looked around as I shouted, and seeing the flames, rushed through the door. She tripped and I smothered the fire out with wet sacks.

The girl had obviously been on fire for some time and was 'terribly burned'.

As we have seen in the Pikeville car case, several people have combusted together, but such cases are extremely rare. Baron Liebig thought that the occurrence of multiple SHC cases disproved the 'disease' theory (see box), since in his experience a disease has never run the same course in two or more people, detail for detail, culminating in their simultaneous death. Certainly none of the 'diseases' that are suggested by the theory's apologists has done so.

Willis describes the case of the Rooneys who lived in a farmhouse near Seneca, Illinois:

> On Christmas Eve 1885, Patrick Rooney and his wife and their hired man, John Larson, were drinking whiskey in the kitchen. Larson went to bed and woke up Christmas morning feeling sick. Downstairs in the kitchen he found everything covered with an oily film, and on the floor, Patrick Rooney dead. Larson rode to get help from Rooney's son John, who lived nearby. Back at the farm the two men noticed that there was a charred hole next to the kitchen table. Looking into the hole they found, on the earth under the kitchen floor, a calcined skull, a few charred bones and a pile of ashes. Mrs Rooney had been obliterated by a fantastically hot fire that had not spread beyond her immediate area.

The coroner soon found that Patrick had been suffocated by the smoke of the burning body of his wife.

Charles Fort, who spent a lifetime collecting reports of SHC and other inexplicable occurrences. Fort wondered if SHC might be connected with demonology: 'I think our data relate not to "spontaneous combustion of human bodies" but to things or beings, that with a flaming process consume men and women, but like werewolves or alleged werewolves, mostly pick women.'

Fuelling the human fireball

Among the early pathologists the theory arose that in certain circumstances the body may produce gases that combust on exposure to quantities of oxygen. The distinguished scientist Baron Karl von Reichenbach wrote of the 'miasma of putrefaction' of human bodies, for instance. But Liebig could find no evidence of such a gas, 'in health, in disease, nay not even in the putrefaction of dead bodies.'

Dixon Mann and W. A. Brend, in their *Forensic medicine and toxicology* (1914) give the case of a fat man who died two hours after admission to Guy's Hospital, London, in 1885. The following day his corpse was found bloated, the skin distended all over and filled with gas, although there was no sign of decomposition. 'When punctures were made in the skin, the gas escaped and burnt with a flame like that of carburetted hydrogen; as many as a dozen flames were burning at the same time.' Had the man died at home near a fire, another case of 'spontaneous combustion' would have been reported to confuse researchers further.

However, gases within the body tissues of the sort suggested would be fatally toxic, and the victim would have been gravely ill or dead. And generally there are no such symptoms: victims have often been seen alive shortly before their flaming. Nor does this theory account for the observed fact of clothes that are left unburnt on a charred corpse.

As an alternative to the disease theory, we might consider organic or mechanical malfunctions of normal processes within the body. Ivan Sanderson and, before him, Vincent Gaddis, speculated about the build-up of phosphagens in muscle tissue, particularly the vitamin B10, vital to normal energy supplies. A technical paper in *Applied Trophology* (December 1957) included this relevant paragraph:

> Phosphagen is a compound like nitro-glycerine, of endothermic formation. It is no doubt so highly developed in certain sedentary persons as to make their bodies actually combustible, subject to ignition, burning like wet gunpowder under some circumstances.

This may explain the readiness of some bodies to blaze, but we still have to identify the source of ignition.

An unmistakable case of simultaneous SHC is summarised by Fort, of an elderly couple named Kiley, who lived near Southampton. On the morning of 26 February 1905, neighbours heard a curious 'scratching' and went next door to investigate. They entered the house and found it in flames inside. Kiley was found burned to death on the floor. Mrs Kiley, burned to death, was sitting in a chair in the same room, 'badly charred but recognisable'. Both bodies were fully dressed,

> judging by the fragments of clothes, indicating they had been burned before their time for going to bed . . . the mystery was that two persons, neither of whom had cried for help, presumably not asleep in any ordinary sense, should have been burned to death in a fire that did not manifest as a general fire until hours later.

There are on record two cases of SHC which coincided with suicide attempts, the implication of which is obscure unless one presupposes some form of the 'psychic suicide' theory in which victims combust because they have given up on life.

On 13 December 1959, 27-year-old Billy Peterson, of Pontiac, Michigan, said goodbye to his mother and drove to his garage where he hooked a pipe from the car's exhaust into the car itself. Only 40 minutes after Billy had left his mother, a passing motorist saw the smoke and investigated. Inside the car Billy was dead from carbon monoxide poisoning, but it was the condition of his body that puzzled pathologists. His back, arms and legs were covered in third-degree burns, and some parts of him were charred to a crisp. Despite all this, his clothes and underclothes were quite unharmed.

On 18 September 1952, Glen Denney, 46, a foundry worker in Louisiana, cut the arteries in his left arm and both wrists and ankles, but he had died from inhaling smoke. When found, he was a 'mass of flames' with nothing else in the room ablaze. The coroner guessed that he had poured kerosene over himself and lit a match, though no container was found, and just how he could hold, let alone light, a match with arterial blood pumping over his hands at about 4 per cent of body volume per second was not explained. The investigator, Otto Burma, wrote: 'There is no doubt in my mind that Denney did in fact attempt suicide. But while in the process of carrying out this act his body caught fire due to some unknown cause.'

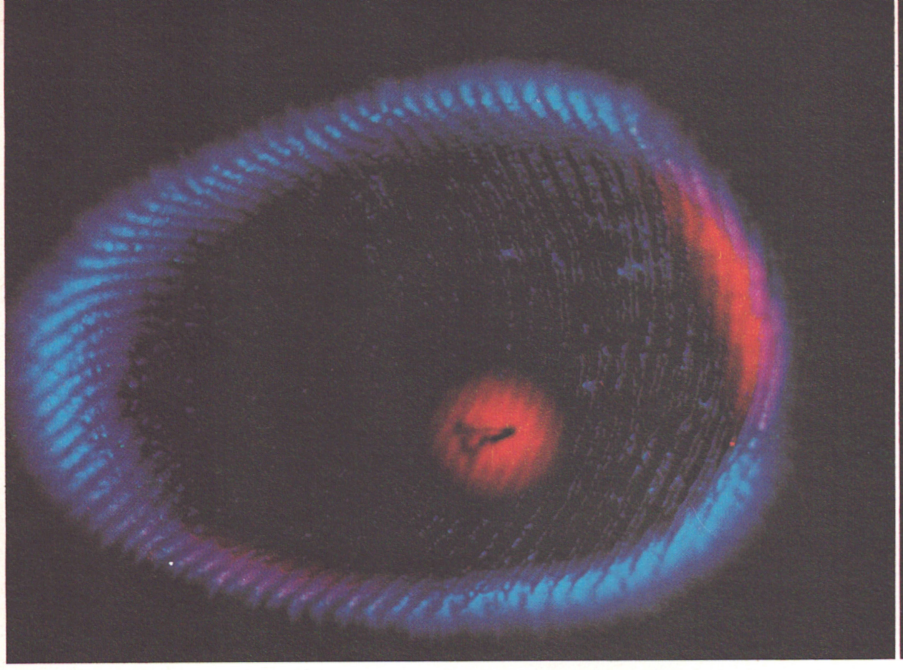
Many other aspects of SHC would reward investigation. There are, for instance, demonstrable connections with poltergeist phenomena, which frequently involve mysterious spontaneous fires. Then there are people who are fire-prone, in whose presence fires repeatedly break out. Examining these and other facts that surround SHC may lead us nearer to understanding the phenomenon – and perhaps to identifying its causes.

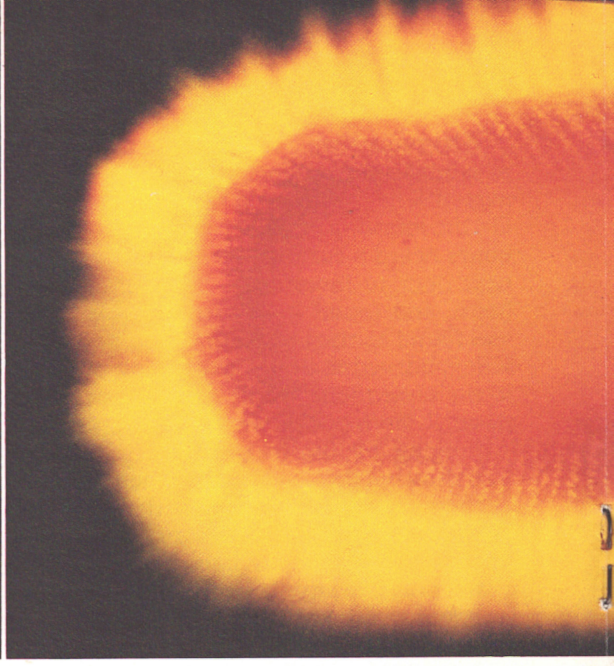
Many causes have been suggested for SHC. A review of the theories starts on page 84

The end of an old soldier

On 19 February 1888, Dr. J. Mackenzie Booth, a lecturer at Aberdeen University, was called to the loft of a stable in Constitution Street, where he found the charred corpse of a 65-year-old pensioner. There was considerable damage to the body: most of the fleshy parts had burned away exposing the calcined ends of bones. The floor around the man had burnt through so that the corpse rested on a charred beam. The heat had also burned the roofing slats above him, causing some slates to fall onto his chest and damage his brittle form further. He was last seen going into the loft with a bottle and lamp the previous evening.

It was thought that he had knocked the lamp over and then been overcome by drink and smoke. (Booth's report describes the 'old soldier' as being 'of inebriate habits'.) But the lamp had been seen to go out shortly after he went into the loft, and no fire was seen during the night. Furthermore, it is clear from this engraving (from the *British Medical Journal* of 21 April 1888, and based directly on a photograph of the scene) that the bales of hay surrounding the man did not catch fire. The carbonised face retained recognisable features, from which, and from 'the comfortably recumbent attitude of the body' Booth noted that 'it was evident that there had been no death struggle.'





Images of the unseen

Do we have a spiritual body that exists separately from our physical body? For centuries mystics and clairvoyants have claimed that there is a halo of brightly-coloured light surrounding the human body. Then, in 1970, news was received that Russian scientists had photographed this 'aura'. BRIAN SNELLGROVE reports on their revelations

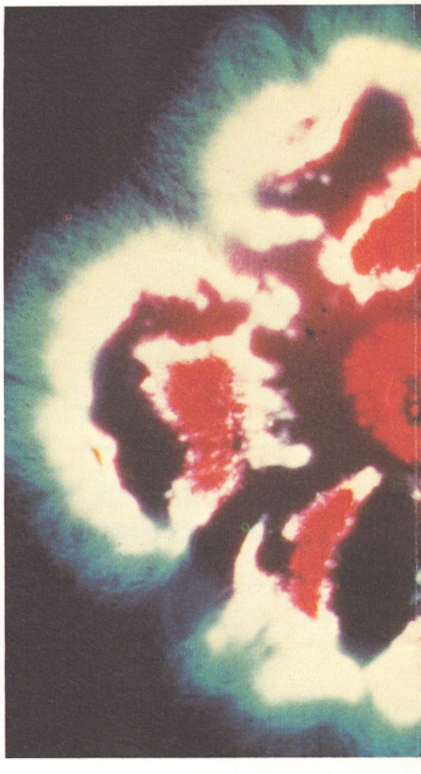
IN 1939 A RUSSIAN engineer, Semyon Kirlian, was repairing an electro-therapy machine in a research laboratory in the Ukrainian town of Krasnodar. Accidentally he allowed his hand to move too close to a 'live' electrode. The shock he received was accompanied by a brilliant flash of light given off by a large spark of electricity. His curiosity aroused, Kirlian wondered what would happen if he placed a sheet of light sensitive material in the path of the spark. Placing his own hand behind a piece of light-sensitised paper, Kirlian found on developing the film strange streamer-like emanations surrounding the image of his fingertips. On closer inspection, Kirlian found that each emanation was seen to have a different radiation pattern.

Fascinated by his 'discovery', Kirlian set up a laboratory in his tiny two-roomed flat and spent all his spare time investigating this phenomenon. Kirlian's research into high-voltage photography over the next 40 years led to intense scientific speculation and debate, and the claim, by some, that the strange emanations captured on film by Kirlian were proof of the existence of the so-called 'astral body'.

For centuries mystics and clairvoyants had claimed that they were able to see a brilliant halo of light surrounding the physical body of all living organisms. This 'halo', they believed, was the spiritual 'double' of our physical selves, but independent of it and surviving the death of the body.

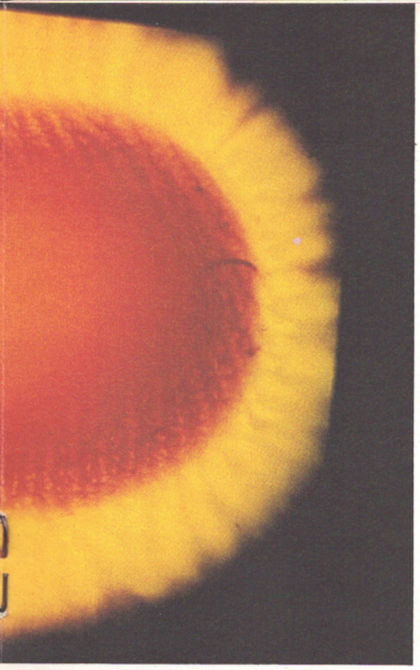
Was the image that Kirlian was able to photograph that of the 'astral body'? Some have believed so. But at present it is not at all clear what causes the brilliant glow surrounding the hands, feet, plant leaves and other objects that have been photographed using the Kirlian technique.

Nor indeed were the effects that Kirlian thought he had discovered entirely new or unknown. In the 1890s, Nikola Tesla, a Serbian scientist working in the USA, had



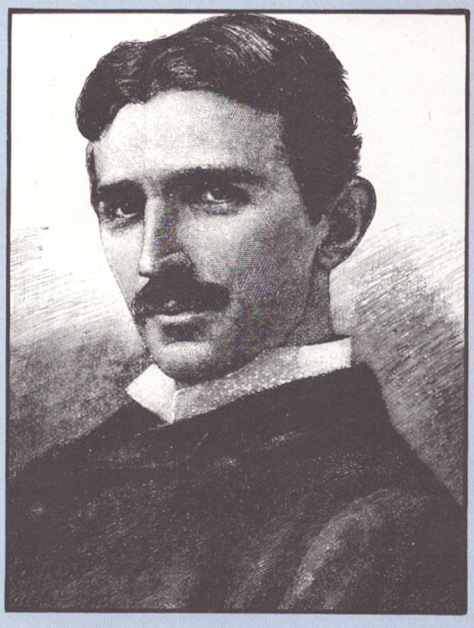
Top left: a fingertip photographed by the Kirlian method, which shows the surrounding radiation pattern. The vivid colour is not in fact significant. The colour of the aura tends to vary according to the type of film used

Left: Semyon and Valentina Kirlian, the husband and wife team who spent over 40 years developing a technique to capture on film the strange streamer-like emanations that, in varying degrees of strength, surround almost all objects



Top: a brilliantly illuminated Kirlian picture of a fingertip. A strong 'aura' is said to show ESP powers, sometimes latent, in the subject of the photograph

Above: as this picture of an oleander leaf shows, plants also respond to the Kirlian method. This fact has been taken by some to prove that all life is essentially spiritual



An amazing inventor

Born in Smiljan, Yugoslavia, 9 July 1856, Nikola Tesla became a driving force in the invention of electrical devices and equipment, as well as being something of a prophet.

Unable to interest European engineers in a new alternating current motor he had conceived, Tesla went to the United States in 1884 and joined Thomas Edison in the designing of dynamos. But the two men soon fell out. Tesla left his employ and set up his own laboratory dedicated to showing the feasibility of Alternating Current.

In 1891 Tesla unveiled his famous coil, which is still widely used today in electronic equipment, including television and radio. Tesla's coil is an electrical device for producing an intermittent source of high voltage. It consists of an induction coil with a central cylindrical core of soft iron onto which are wound two insulated coils: an inner (primary) coil of a few turns of copper wire, and a surrounding, secondary coil with a large number of turns of thin copper wire. An interrupter is used for making and breaking the current in the primary coil automatically. This current magnetises the iron core and produces a large magnetic field through the induction coil. For experimentation with the high voltage output of power from his coil, Tesla produced a gas-filled, phosphore coated tubular light – forerunner of today's fluorescent light.

A measure of Tesla's inventiveness can be seen by his tele-automatic boat of 1898 which was guided by remote control. Then in 1900 he made what many have claimed as his finest discovery – terrestrial stationary waves. He proved with this discovery that the earth could be used as a conductor and would be as responsive as a tuning fork to electrical vibrations of a certain pitch. He also lighted 200 electric lamps without wires from a distance of 25 miles and created man-made lightning, producing flashes of some 135 feet. Tesla was convinced at one time that he was receiving signals from another planet at his Colorado laboratory. But his claims were met with derision from the scientific press.

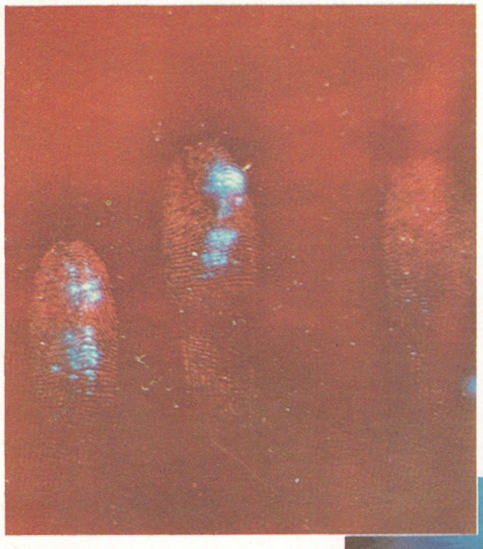
His ideas later became even more speculative. He asserted that he was able to split the world in half like an apple and that he had invented a 'death ray' that could destroy aircraft 250 miles away. His ideas concerning communication with other planets met with incredulity. Yet in 1917 he accurately forecast the coming of radar.

used high-voltage photography, with much the same results as those achieved by Kirlian. In the early 1930s an English researcher, George de la Warr, discovered the existence of weak 'electromagnetic force fields' surrounding areas of the human body and at a distance from it. These fields extended in a lattice-like formation and contained voltage peaks as high as 70 millivolts. The vividness of these fields was also seen to fluctuate according to the physical and emotional state of the subject.

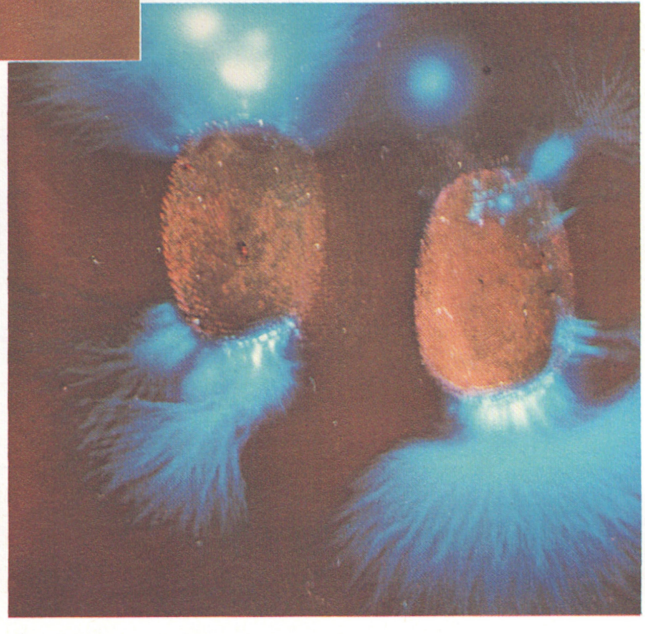
But undoubtedly the major advances in the field of high voltage photography were indeed made by Kirlian himself. Some of his most interesting contributions were made quite by chance. On one occasion, Kirlian was preparing his equipment for a demonstration he was giving to a distinguished visitor. To his dismay, on the day the visitor was to arrive the machine failed to produce the normal clear results. Kirlian took his machine apart, checked for faults and made further tests, but with the same negative results. In frustration he asked his wife, Valentina, to be the subject. To their mutual surprise, a perfect image was produced. A few hours later, Kirlian discovered what he believed to be the cause of his failure to produce a clear image. He developed a particularly virulent form of influenza, and to Kirlian it seemed reasonable to suppose that his illness had caused the weak image. The photograph, Kirlian claimed, had in some way given warning of the influenza.

A further possible use of the Kirlian method was revealed when the chairman of a major scientific research institution arrived. He brought with him two apparently identical leaves for the Kirlians to photograph, the

Controlling the Kirlian aura



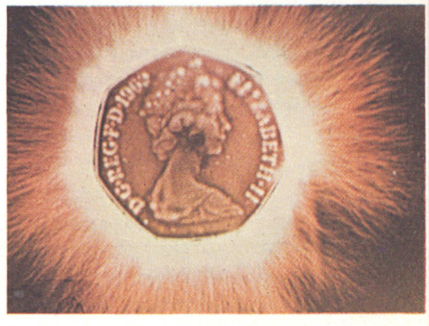
From the age of 11 Matthew Manning, below left, has been aware of possessing a wide range of psychic powers. Powers that he could, with practice, turn on at will. In 1974 a group of 21 scientists met to investigate these powers. Was Matthew being used by supernatural forces outside himself, or could his 'gift' be explained in terms of science? The evidence remains inconclusive. But Kirlian photographs taken of Matthew's fingertips produced startling results. The picture on the left shows Matthew's 'normal' corona, but the picture below, taken when he had 'switched the power on', shows a remarkably intense aura.



A Kirlian photograph of a rose petal (top right) shows a characteristic aura. But when a portion of the petal is cut away (below right) the Kirlian photograph still shows, quite clearly, the section that has been removed. This is known as the 'phantom leaf effect' and Russian investigators say that it proves that 'bioplasma' surrounds all living things

Below: a 50p coin with the characteristic outer 'glow'. If, as some claim, this glow is really the 'aura', then it would seem that even inanimate matter has some form of spiritual existence

Bottom: the same coin photographed after two psychic healers had placed their hands 4 inches (10 centimetres) above the coin for five minutes. The outer glow is noticably brighter



two samples had been taken from the same species of plant, torn off at the same time. From one leaf the husband and wife team obtained the characteristic flare patterns surrounding the leaf. But from the other leaf, no clear patterns were obtained. The Kirlians adjusted their machine in every possible way, but with the same inconsistent results. Next morning they related their failure to produce the same results to their visitor. To their surprise he was delighted. The leaf with the weak pattern, he told them, had been taken from a plant that had contracted a serious disease. The other leaf, with the clear pattern, had been taken from a perfectly healthy plant. The experiment seemed to confirm Kirlian's hypothesis: his machine was able to give warning of disease. The high voltage photograph had detected illness and disease in advance of any physical symptoms appearing on the surface.

Further experiments seemed to produce equally startling results. If a section of a leaf was cut off and photographed an image of the outline appeared on the photograph. This phenomenon, known as the 'phantom leaf', seemed to confirm the claims of clairvoyants that they could see clearly the 'phantom limb' on people with an amputated limb, but who continued to feel pain from the severed limb.

Though the Kirlians themselves did not describe the results of their investigations as evidence for the existence of an 'astral body', many were only too eager to do so. What other explanation was there, they asked, for the startling pictures Kirlian was able to take? But in one sense even the clairvoyants were disappointed with the results of Kirlian photography. Even the richly colourful images achieved by Kirlian lacked the subtlety of the 'aura' seen by clairvoyants.

While working at St Thomas's Hospital in London at the turn of the century, Dr Walter Kilner found that if he observed his patients through a glass screen coated with a blue dye,

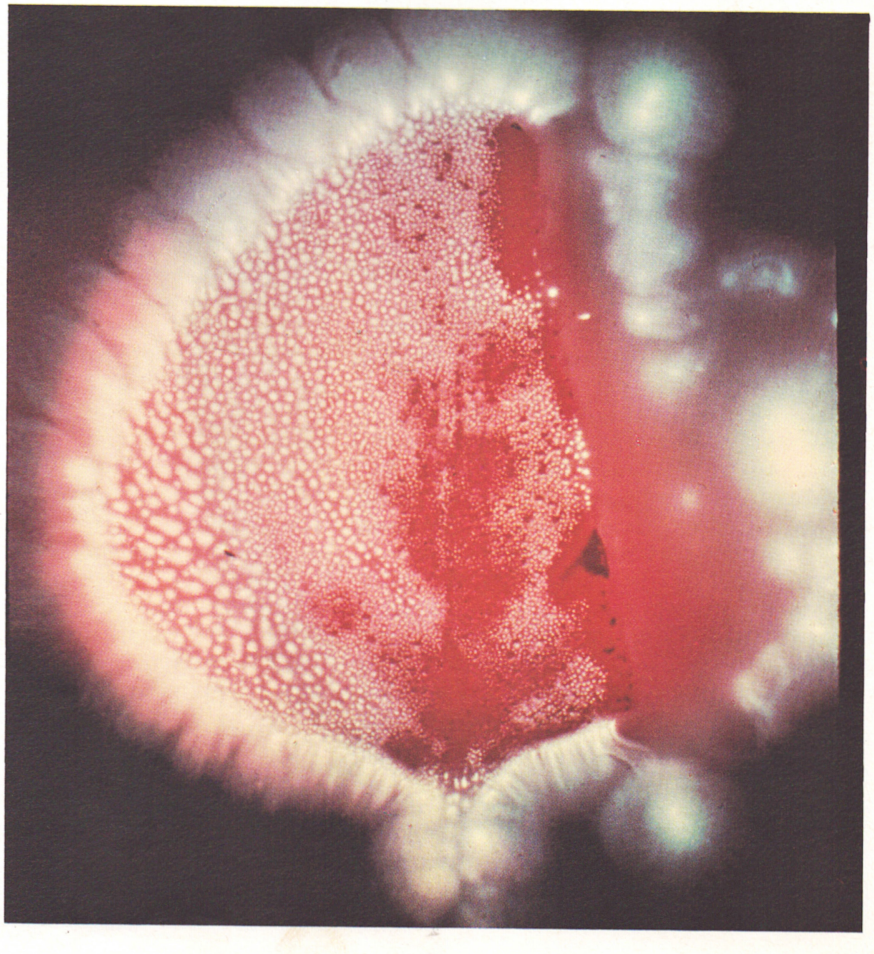
he could see a 'faint cloud' surrounding them that seemed to vary according to the physical and mental state of the patient. The dye had, Kilner later came to believe, acted as a stimulant to his own innate ability to perceive the 'glow' without any artificial aid. But the ability of those like Kilner to see this 'aura' clearly is of little help to scientists. Because it is such a personal quality, it is difficult to measure, control, analyse and subject to scientific scrutiny in the laboratory.

Research in the West into the possible cause of Kirlian photography is still in its infancy. Certainly, no definite conclusions have been reached. Research in Russia has been of much longer duration and has contributed many interesting theories as to the possible cause of the Kirlian effect. Working at the University of Alma Atta, Dr Victor Inyushin has spent several years investigating Kirlian photography. As a result of his investigations, Inyushin has come to the conclusion that the 'aura' effect shown in Kirlian photography is evidence of what he calls 'biological plasma' and not the result of any electrical state of the organism. Dr Inyushin describes 'biological plasma' in terms that closely resemble those used by clairvoyants to describe the 'astral body'. 'All living things' writes Dr Inyushin '– plants, animals and humans – not only have a physical body made of atoms and molecules, but also a counterpart body of energy'.

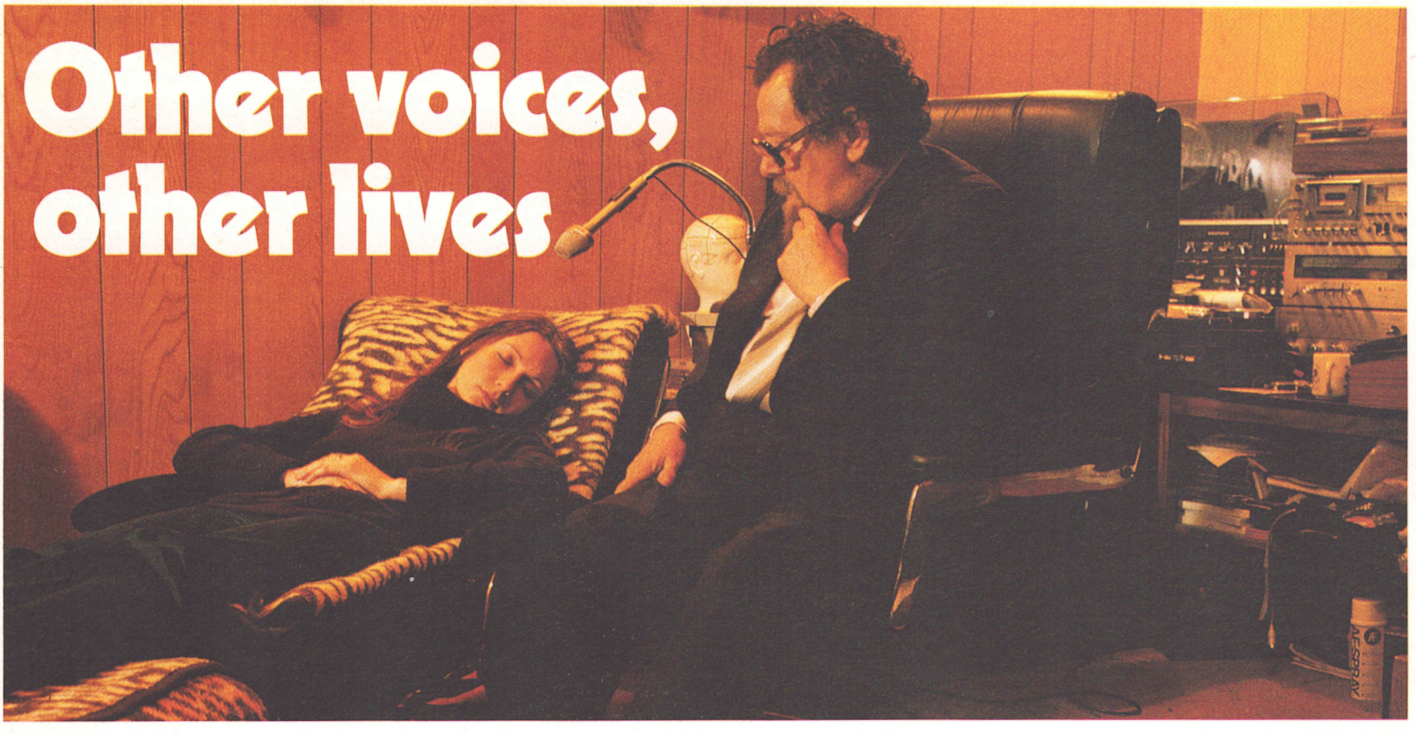
Much evidence already exists, claim the enthusiasts, to support Inyushin's theory. And there is also evidence that the nature and extent of these fields of energy, surrounding every living organism, corresponds to the image on the Kirlian print. Not so, reply the critics. Kirlian photography cannot be considered of scientific interest, since it is not repeatable under stringent laboratory conditions; a necessary requirement of all scientific phenomenon. Also, they argue, those experiments that have been conducted produce different results every time, not as the result of underlying physical or psychological causes, as Kirlian claimed, but due, simply, to such factors as sweat secretion and the primitive nature of the equipment used in Kirlian photography.

The debate continues. No one knows for certain what the images the Kirlians photographed are. Some, while rejecting the spiritual aspects of Kirlian, accept that, whatever the emanations mean, they can be used to achieve insight into the physical and psychological condition of the subject. Others, including practising scientists, claim far more. But all are agreed that the Kirlians have opened up a hitherto invisible world, once known only by the exceptional few, for everyone to see.

On page 94 we show how the Kirlian technique works and some of its outstanding successes



Other voices, other lives



It has long been known that under hypnosis some people regress to what appears to be a previous life. They not only assume another personality, but, as DAVID CHRISTIE-MURRAY shows, they can describe details from the past that are completely unknown to them outside of the trance state

HYPNOTIC REGRESSION into alleged previous lives is one of the most exciting and fascinating of psychic phenomena – and one of the most frustrating. During the past 20 years it has been brought to the attention of the general public every so often by programmes on radio and television, articles in the press and books written either by hypnotists themselves or by collaborators working with them.

Morey Bernstein's *The search for Bridey Murphy*, published in 1965, is still remembered if the small talk veers towards the occult; Arnall Bloxham's tapes, featured on radio and television programmes, and given a longer life by Jeffrey Iverson's *More lives than one?*, are widely known. Recently, Peter Moss has collaborated with Joe Keeton, prodigious in his expenditure of hypnotic man-hours, in the book *Encounters with the past*, which describes recordings of extracts from sessions with chosen subjects.

It is not generally realised that hypnotic regression into previous lives is not a recent discovery and has, in fact, been studied for nearly a century. The work of pioneers in this field, much of it lost because it was done long before the advent of the tape-recorder, is nevertheless valuable to students of reincarnation, whether they believe in it or not.

Travelling back in time

Part of the fascination of hypnotic regression lies in the very frustration that it engenders. Its revelations are both positive and negative, some bolstering the faith of reincarnationists and puzzling sceptics, others bewildering believers and encouraging doubt. Regression is positive in that the dramatisations of former existences are vividly portrayed far beyond the acting abilities of subjects in their waking condition, so that observers repeatedly say: 'If this be acting, neither an Olivier or a Bernhardt could better it.'

Positive, too, is the consistency with which many subjects, regressed repeatedly to the same historical period, take up the previous life, so that the same personality, outlook and intonation of speech appear without effort or hesitation. The same incidents and facts are remembered even when trick questions are introduced to try to trap the speakers. This happens even when years separate the sessions.

Regression is positive in two further ways. The first is that obscure historical facts, apparently completely unknown beforehand to either hypnotist or subject and confirmed only after considerable research, are revealed in reply to general questions. An example of this is shown by one of Joe Keeton's subjects, Ann Dowling, an ordinary housewife who, during over 60 hours of regression, became Sarah Williams, an orphan living a life of utter squalor in a Liverpool slum in the first half of the 19th century.

When asked what was happening in Liverpool in 1850, Ann Dowling mentioned the visit of a foreign singer whose name had 'summat to do wi' a bird'. Research showed

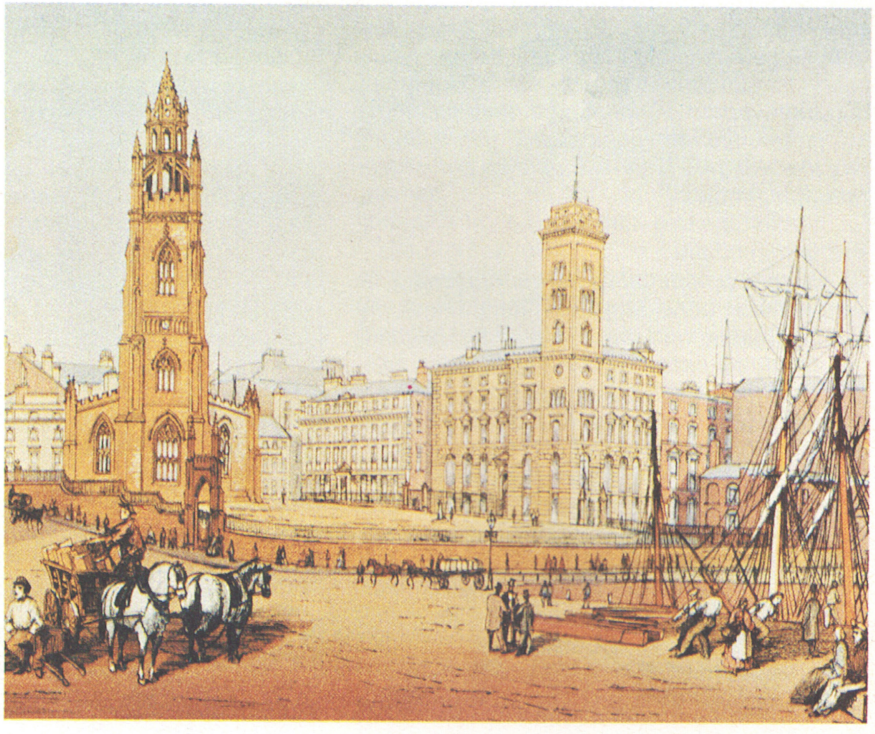
Hypnotherapist Joe Keeton (top) has conducted more than 8000 regressions. One of his subjects, Ann Dowling (above), went back over 100 years and became Sarah Williams, who lived in Liverpool in the 1850s (top right). Among the facts recalled by Mrs Dowling was the visit of Swedish singer Jenny Lind (below)

that Jenny Lind, the 'Swedish Nightingale', on her way from Sweden to America, sang for two nights in Liverpool's Philharmonic Hall in August 1850.

The second positive aspect of hypnotic regression is found in the tiny details of past usage that slip naturally into the subject's conversation while reliving the past life. These details *might* have been picked up by the subject in his present lifetime and held in his subconscious memory, but they are unlikely to have been formally taught or known to people of ordinary education.

David Lowe, a member of the Society for Psychical Research, lectures about a woman whom he has regressed into a number of lives, some of them in different generations of the same family (an unusual feature), illustrating his talks with copious tape-recordings of her conversations in previous existences.

During a 17th-century regression, David Lowe asked the woman how a certain word containing a 'w' was spelt. Her spontaneous answer was 'double v' – the common pronunciation of the letter at that time. This



The belief in reincarnation

The belief in reincarnation – that man's soul is reborn over and over again in another body or form – stretches far back into the past. The doctrine appears in primitive religions such as those of the Indian tribes of Assam, Nagas and Lushais, who believed that after death the soul took the form of an insect. The Bakongs of Borneo believed that their dead were reincarnated into the bearcats that frequented their raised coffins. The Kikuyu women of Kenya often worship at a place 'inhabited' by their ancestral souls in the belief that to become pregnant they must be entered by an ancestral soul.

According to Buddhist and Hindu thought man or the soul is reborn in accordance with merits acquired during his previous lifetime. But some sects of Hinduism hold that a man does not necessarily assume a human form in the next life. If he has been involved with vice or crime it is possible he may return as a cactus, toad, lizard, or even as poison ivy! The Buddhists believe that man is made up of elements: body, sensation, perception, impulse, emotion and consciousness, which fall apart at death. The individual, as such, ceases to exist and a new individual life begins according to the quality of the previous life, until at last achieving perfection and nirvana – eternal bliss.

Although reincarnation is not mentioned in Western texts until the late Greek and Latin writers, the idea dates back to at least the 6th century BC. It appears in the Orphic writings, which

Tibetans believe that their spiritual leader, the Dalai Lama, is the reincarnation of a previous Dalai Lama whose soul enters the body of a child born at the precise moment of his death

appear to have played a great part in the thought of Pythagorus. He believed that the soul had 'fallen' into a bodily existence and would have to reincarnate itself through other forms to be set free. He himself claimed to have had previous existences including one as a soldier in a Trojan war.

Plato was greatly influenced by the Orphico-Pythagorean views and mentions reincarnation in his concluding part of the *Republic*. The soul, according to Plato, is immortal, the number of souls fixed, and reincarnation regularly occurs. Although discarded by Aristotle and other Stoic views, Plato's derivation was taken up by later schools of thought such as the Neoplatonists. Within the Christian church the belief was held by certain Gnostic sects during the first century AD and by the Manichaeans in the fourth and fifth centuries. But the idea was repudiated by eminent theologians at the time, and in AD 553, the Emperor Justinian condemned reincarnation, at the Second Council of Constantinople, as heresy.

Today the Westerner does have some difficulty in identifying with the Eastern idea of reincarnation. Most Western religious denominations share the view that the individual retains individuality after death, and finds the idea of returning as an animal or plant distinctly foreign. In 1917 the Roman Catholic Church denounced the idea as heresy.

Most adherents of reincarnation are now claiming the evidence from regressive hypnosis as proof for their case.

trivial detail was more telling to some listeners than all the researched dates and genealogies that substantiated the woman's story, remarkable as these were. When asked if she were engaged (to be married), the subject failed to understand the modern expression, but later talked happily of her recent betrothal.

Fact or fiction

The negative side of hypnotic regression is nevertheless considerable. There are many anachronisms, occasional historical howlers, instances of extraordinary ignorance and, with some subjects, inconsistencies (although much rarer than, and more balanced by, the consistencies).

One 19th-century character mentioned her 'boyfriend' in the modern sense of someone with a sexual love-interest in her. Another, regressed to the early 1830s and asked who ruled England, replied 'Queen Victoria', although four years of William IV's reign had still to run and Victoria's accession could not have been known for certain.

A common difficulty in substantiating historical facts is the scarcity of records of ordinary folk before the 19th century. Even when subjects mention landowners and comparatively important people, there is often no record of their existence in local archives. It is therefore sometimes extremely difficult to separate fact from fiction, especially as there may be a great deal of 'role-playing', the incubation in the subconscious mind of an imaginary personality around a nucleus of fact read in a history book or a novel.

Origins of modern hypnosis

Hypnosis is still so misunderstood and thought of as occult in the minds of many that it is as well to describe its place in modern thought.

Modern hypnosis began with Franz Mesmer, an Austrian physician who became a fashionable figure of Parisian society in the 18th century. He mistakenly believed that human beings emitted a force that could be transferred to objects such as iron rods. He 'magnetised' the rods by stroking them, then placed them in tubs filled with water in which his patients immersed their legs. Many and various were the ills allegedly cured by this method.

The extravagance of Mesmeric theory and its claims, together with the undertones of occultism that went with them, aroused intense opposition and throughout the 19th century, serious investigators into hypnosis and the few medical men bold enough to experiment with its use met the kind of hostility once reserved for witches.

The Society for Physical Research, which was founded in Britain in 1882, set up a committee to investigate hypnosis that continued to exist until a few years ago. Its findings, however, were not easily communicated to the general public and the phenomena it showed to be genuine were remarkable enough to maintain hypnotism's occult reputation, in spite of the Society's careful, objective and scholarly approach. But the therapeutic value of hypnosis was slowly established, especially in the treatment of psychological disorders.

After much investigation, it was discovered that subjects under hypnosis could be told either to *remember* what had happened on, say, their fifth birthday, or to *be* five years old again and to relive the day.

In the latter case, subjects would be led back to that day, write as they wrote at that age, relive the opening of their presents and each incident of the birthday party. They would have no knowledge of anything that happened after their fifth birthday until led forward by the hypnotist. It was as if all the layers of experience from five years old onwards had completely disappeared. The first man to attempt this age regression is said

The founder of modern hypnosis, Franz Anton Mesmer, believed that people emitted a force that could be transferred to iron rods. Parisians of all classes flocked to his salon in the 18th century where they sat round a large wooden tub called a *baquet*. This was filled with water, iron filings and bottles of 'magnetised' water. Projecting from the tub were iron rods, which patients held against their afflicted parts

to have been a Spaniard, Fernando Colavida, in 1887.

Further discoveries led to the investigation of pre-birth experiences in the womb and within a few years Dr Mortis Stark was studying the possibility of actually regressing subjects to a life before the present. At about the same time, in 1911, a Frenchman, Colonel Albert de Rochas, published an account of regressions that he had collected over several years.

A therapeutic role

The method employed in hypnotic regression is simple. After hypnotising the subject, the operator takes him back step by step to the beginning of his present life, then into the womb, and then instructs him to go back and back until he comes to some experience that he can describe. This is sometimes an 'existence' in the intermission between death ending a former life and birth beginning the present, sometimes experience of the former life itself, the period and circumstances of which the hypnotist can elicit by careful questioning.

The process is not merely used for interest's sake or to prove reincarnation – it can be therapeutic. Neuroses and other psychological disorders may be caused by traumas, the existence of which has been caused by shocks or other experiences in childhood or youth apparently too horrible for the conscious mind to face. To cure the neurosis, the trauma must be discovered and faced by the patient, and hypnosis is one technique able to dig it out.

By an extension of the process, neuroses and phobias may be caused by traumas experienced in alleged former lives that are revealed under hypnosis. Thus, one woman's terrible fear of water was caused by her having been bound with chains as a galley-slave in a previous existence, thrown into a river and eaten alive by crocodiles. A man terrified of descending in lifts had been a Chinese general who had accidentally fallen to his death from a great height. A young American girl about to dive from a high board was suddenly paralysed with fear after a moving bystander had been reflected in the water. Hypnosis revealed the hideous end of a former life in which she had been a girl in Florida who, just as she was jumping into the water, had seen the shadow of the alligator that was to devour her moving below the surface.

Whether or not these are memories of genuine previous experiences, they are convincing to many who have them. Much of the investigation into this particular aspect of hypnosis challenges the sceptics to find an explanation other than that of reincarnation. There *are* alternative explanations, which will be presented in future articles.

One of the most famous hypnotic regressions is that of Bridey Murphy. See page 78

Ten more lives to remember

Madame J, a soldier's wife and mother of one child, was delicate in health and as a girl had 'hated history'. She was regressed by Colonel de Rochas to 10 previous lives, some extremely detailed.

In the first she died at eight months. She then lived as a girl named Irisée in the country of the Imondo near Trieste. She next became a man, Esius, aged 40, who was planning to kill Emperor Probus in revenge for taking his daughter, Florina.

The fourth life was that of Carlomée, a Frankish warrior chieftain captured by Attila at Châlons-sur-Marne in AD 449. Abbess Martha followed, born in AD 923, who tyrannised young girls in a Vincennes convent as late as 1010. The Abbess was succeeded by Mariette Martin, aged 18 in 1300, daughter of a man who worked for the king – 'le beau Philippe'.

Madame J. then became Michel Berry, who was killed at the age of 22 in 1515 at the Battle of Marignano. This life was extremely detailed, Michel's career developing from his learning the art of fencing at 10, through his life as a page at the courts at Versailles and the Sorbonne and sundry love affairs to his presence aged 20 at the Battle of Guinegatte in Normandy.

Top: Colonel Albert de Rochas caused a sensation in 1911 with an account of hypnotic regression

Centre: the Emperor Probus, who was hated by Esius, the third personality in Madame J's previous lives

Above: the Battle of Marignano, in which Michel Berry died

After an eighth life as a wife and mother aged 30 in 1702, Madame J again became a man, Jules Robert. Jules was aged 38 in 1776 and a 'bad' worker in marble. Nevertheless one of his sculptures reached the Vatican.

Jules Robert reincarnated as Marguerite Duchesne, born in 1835, daughter of a grocer in the rue de la Caserne, Briançon. She went to school in the rue de la Gargouille. Research showed that the school existed, but there had never been a grocer Duchesne in the rue de la Caserne. Otherwise Madame J's description of places was accurate.

Tantalising evidence: The New Zealand UFO film

One of the most impressive UFO sightings of all time took place in 1978 when a New Zealand television crew made two flights searching for UFOs – and actually succeeded in filming them. CHARLES BOWEN describes this extraordinary event

LATE IN THE EVENING of 30 December 1978 an Argosy freight plane set off from Wellington, New Zealand. Its skipper was Captain Bill Startup, who had 23 years' flying experience behind him, and the co-pilot was Bob Guard. On board was an Australian TV crew from Channel 0-10 Network: reporter Quentin Fogarty, cameraman David Crockett and his wife, sound recordist Ngaire Crockett. Their purpose was to try to film UFOs, for there had been reports of 'unknowns' during the preceding weeks in the region of Cook Strait, which separates New Zealand's North and South Islands. They were spectacularly successful in the quest. So successful that, after the story had appeared in hundreds of newspapers and clips from the films had been shown repeatedly on television around the world – the BBC, for instance, gave it pride of place on the main evening news – critics and droves of debunkers lined up to try to explain what the television crew had seen, in terms ranging from the sublimely astronomical to the ridiculously absurd.

'Bright lights over the ocean'

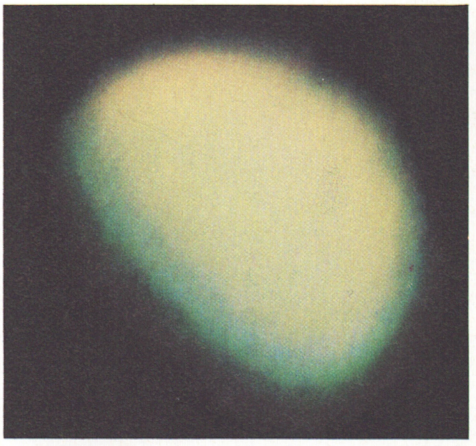
Radar-visual: Blenheim, New Zealand, 30 December 1978

This spinning, luminous sphere was filmed by a New Zealand television crew on the night of 30 December 1978. The crew made two flights, looking for UFOs, on the same night – and, incredibly, saw them both times

The Argosy had crossed Cook Strait and was flying over the Pacific Ocean off the north-east coast of South Island when the excitement began. The television crew was down by the loading bay filming 'intros' with Quentin Fogarty when Captain Startup called over the intercom for them to hurry to the flight deck; the pilots had seen some strange objects in the sky. According to Dave Crockett, they had already checked with Wellington air traffic control for radar confirmation of their visual sighting.

Quentin Fogarty stated that when he reached the flight deck he saw a row of five bright lights. Large and brilliant, although a long way off, they were seen to pulsate, growing from pinpoint size to the size of a large balloon full of glowing light. The sequence was repeated, the objects appearing above the street lights of the town of Kaikoura, but between the aircraft and the ground.

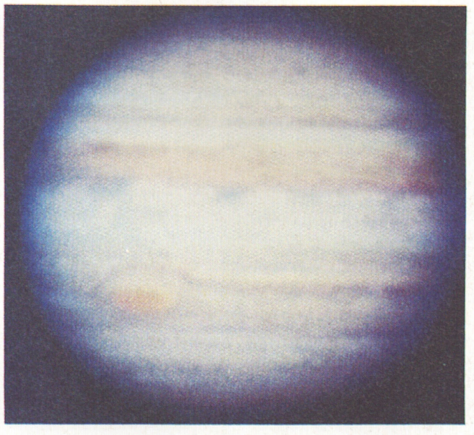
Dave Crockett, who was wearing headphones, received a call from Wellington control warning the pilots that an unknown target was following the Argosy. Captain Startup put his plane into a 360-degree turn to look for the unidentified object but the passengers and crew saw nothing. Control however, was insistent: 'Sierra Alpha Eagle . . . you have a target in formation with you . . . target has increased in size.' This time lights were seen outside the plane, but because of interference from the navigation lights of the plane, Crockett was unable to film. So First Officer Bob Guard switched off the navigation lights – and everyone saw a big, bright light. The plane was now back on automatic pilot, so Bob Guard gave up his seat for Crockett, who obtained a clear shot



Rogue planets?

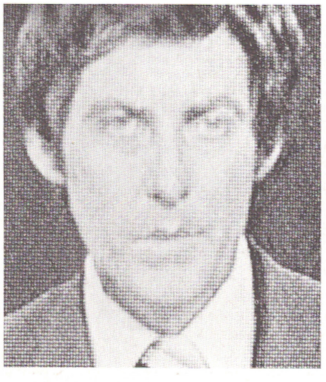
For a time it was thought that the New Zealand films might provide solid scientific evidence for UFOs.

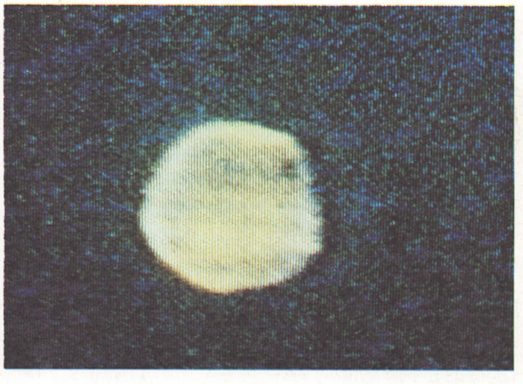
Faced with this possibility, scientists were quick to react by putting forward a whole range of alternative explanations of what the object in the films might be. Some of their theories were wildly implausible – one even claimed the television crew had seen 'reflections from moonlight via cabbage leaves'. A more reasonable explanation was that the films showed a planet – but which one? One newspaper claimed it was Venus (left), another said it was Jupiter (right). But even the quickest glance at the planets themselves show these explanations to be unlikely. The *Daily Telegraph*, surprisingly, printed a strong condemnation of the Venus theory: 'The scientist who suggested that all [the television crew] were seeing was Venus on a particularly bright night can . . . be safely consigned to Bedlam'.



Below: Captain Bill Startup, pilot of the aircraft from which the UFO film was taken

Below, centre and far right: stills from the New Zealand television crew's film. The presence of the strange objects was confirmed by Wellington air traffic control, who saw their traces on their radarscopes





of the object with his hand-held camera. Dave Crockett has since explained that this changing of seats with the camera running was responsible for the violent shake seen at that point in the movie film.

After this, Bill Startup put the plane into another 360-degree turn. They then lost sight of the UFO, although Wellington control said its echo was still on the radar scope.

It should be noted that, although there was no room for a camera tripod to be mounted on the flight deck, the unidentified object stayed steady enough for David Crockett to be able to keep it dead centre in his camera viewfinder for more than 30 seconds.

As the plane approached Christchurch, the fuel gauge went into a spin, but the captain said that this occasionally happened and was not necessarily caused by interference by the UFO. At this point they were tuning in on the UFO off Banks Peninsula and were out of touch with Wellington control. Christchurch control had the object on its radar scope but later, when Captain Startup and American investigating scientist Dr Bruce Maccabee asked to see the radar tapes, the Christchurch supervisor replied that they had been 'wiped' clean as part of routine procedure.

The Argosy landed at Christchurch and journalist Dennis Grant joined the team in place of Dave Crockett's wife Ngaire. They left on the return flight of Blenheim at about 2.15 a.m. on 31 December 1978.

Early in this flight the observers saw two more strange objects. Through the camera lens Crockett saw what he described as a sphere with lateral lines around it. This object focused itself as Crockett watched through his camera – without adjusting the

lens. He said the sphere was spinning. Significantly, one of the objects swayed on the Argosy's weather radar continuously for some 4 minutes. Later, as the aircraft approached Blenheim, they all saw two pulsating lights, one of which suddenly fell in a blurred streak for about 1000 feet (300 metres) before pulling up short in a series of jerky movements.

True or false?

Were the objects 'flying saucers'? Many alternative explanations were put forward: the film depicted a 'top secret American military remote-control drone vehicle', plasma or ball lightning, a hoax, meteorites, 'helicopters operating illegally at night', mutton birds, lights on Japanese squid boats, 'reflections from moonlight via cabbage leaves' (at Kaikoura), while Patrick Moore hedged his bets with a guess of 'a reflection, a balloon or an unscheduled aircraft.'

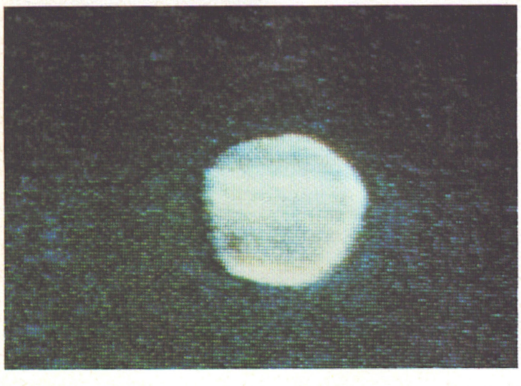
One newspaper claimed the film showed the planet Venus, out of focus because it was filmed with a hand-held camera. Another offered Jupiter as a candidate; an amateur astronomer had enhanced the light values of the film by putting through a line-scan analyser and had identified four small points of light that could be taken to correspond to the positions of the four largest moons of Jupiter. Venus and Jupiter appeared in different regions of the sky; because the television crew were so vague about the position of the lights relative to the aircraft as they were filming them, it was impossible to make a positive identification.

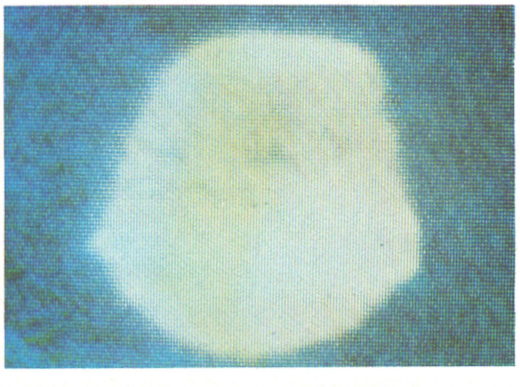
One of the most exciting aspects of the incident is that it appears to offer independent instrumental evidence of the sighting both on film and radar. But even here there are problems. Although both ground radar and the Argosy's own radar picked up unidentified traces, the number of UFOs the television crew claimed to have seen – about eight – conflicts with the 11 reported by ground radar. And the crew actually filmed only one object. The radar controller at Wellington, Ken Bigham, was dismissive about the whole affair:

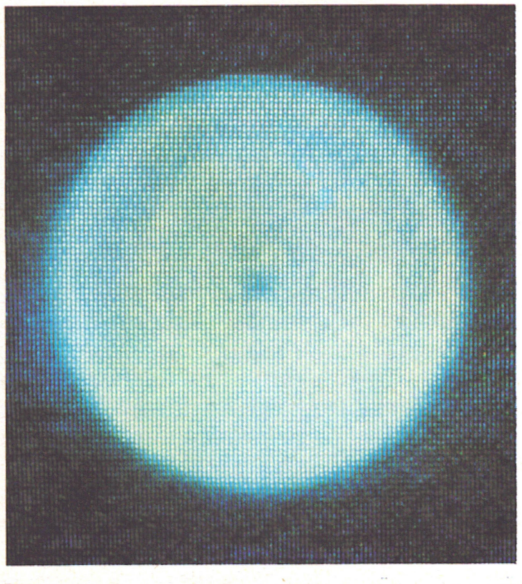
> I managed to plot three of the echoes for 20 minutes or so before they faded completely. They definitely moved, varying between 50 and 100 knots (92.5 km/h and 185 km/h). I certainly couldn't identify them as anything. It's pretty inconclusive. They were purely the sort of radar echoes that constantly pop up. It is not unusual to get strange echoes appearing on what we call primary radar. They usually amount to nothing at all.

Nevertheless, the Royal New Zealand Air Force was concerned enough about the incident to put a Skyhawk jet fighter on full alert to intercept any other UFOs that might appear in the area. By the end of January, however, the fuss had died down and the New Zealand Defence Ministry stated that the radar images were 'spurious returns' and the unidentified objects 'atmospheric phenomena'.

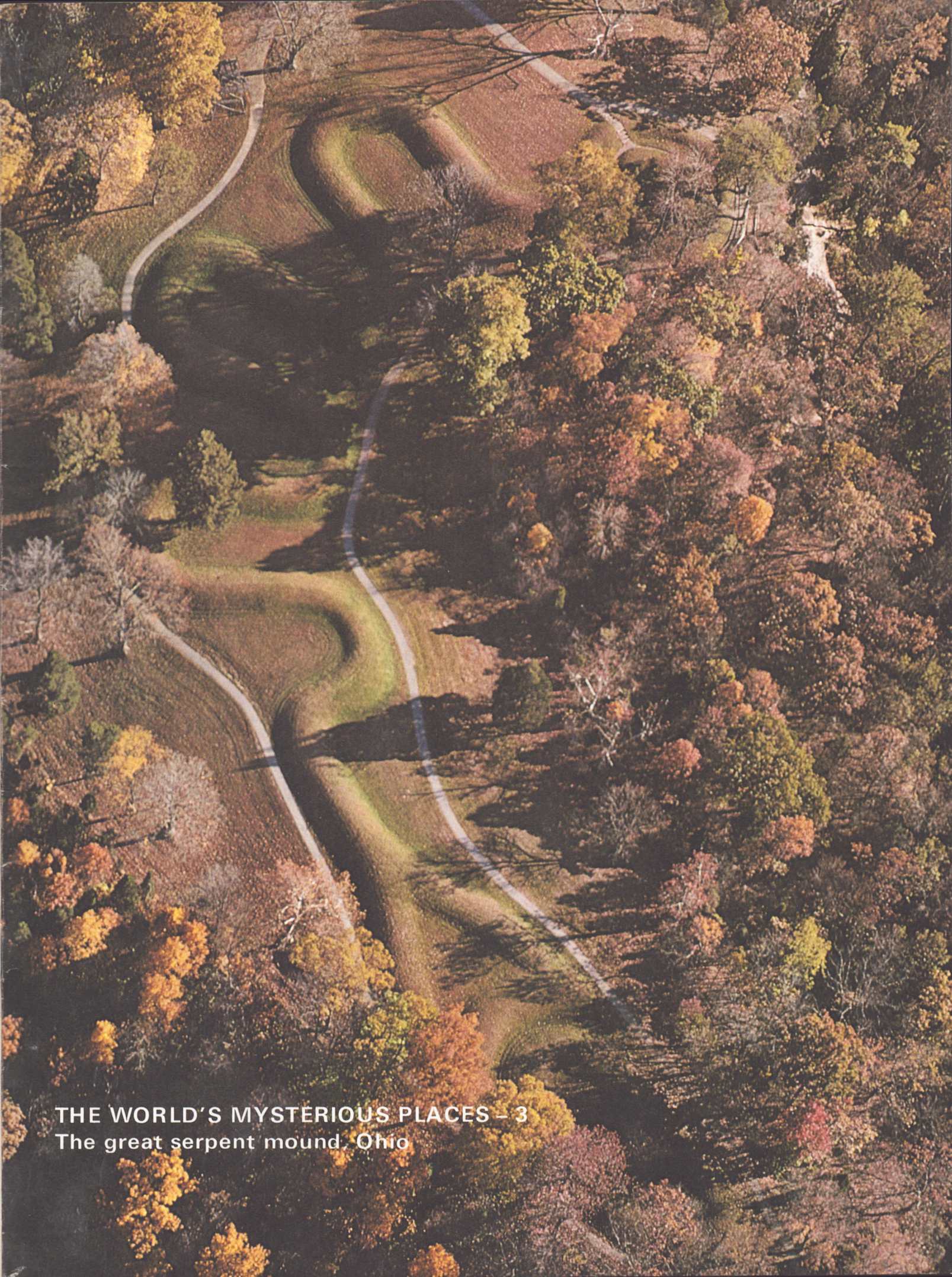
What is the truth of the New Zealand affair? The film appears to be genuine; computer enhancement has not proved it to be a fake. It seems almost too good to be true that a television crew that had set out with the deliberate intention of filming 'flying saucers' should come up with such spectacular results; and yet it has to be assumed that the objects they saw were real enough to those who beheld them – and were not mere hallucinations. The case remains on file, a fascinating question mark.







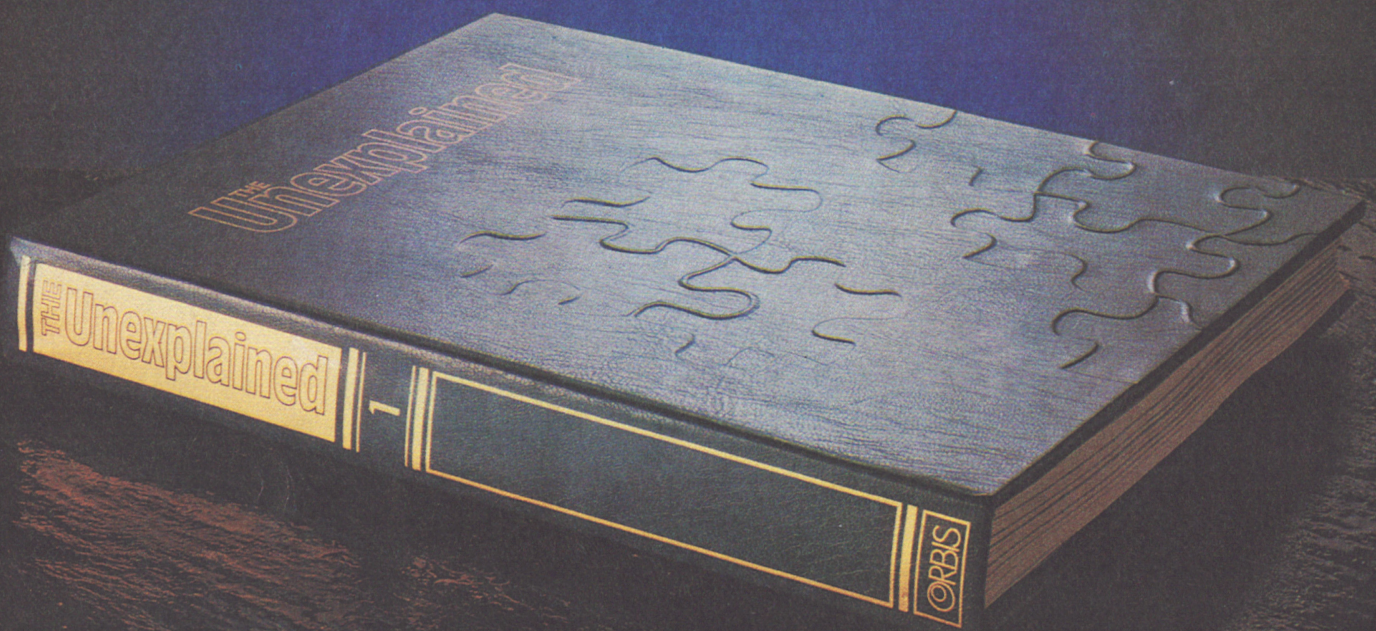
With the navigation lights of the aircraft switched off, the television crew was able to obtain this film of one of the objects. It pulsated from a pinpoint to the size of 'a large balloon'



THE WORLD'S MYSTERIOUS PLACES – 3

The great serpent mound, Ohio

Put the pieces together



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